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Presentation of Content

In the first chapter we present, Benchmarking a sister city: Identifying value-adding activities in Tehran compared to Seoul, by PADASH, Hamid, EBRAHIMZADEH, Mehdi and KHODAPANAH, Bahman, with adscription in the University of Tehran, Tehran, Iran, as the next article we present, Investigating the effect of entrepreneurial intensity on creating competitiveness capabilities and export performance, by ROOSTAEE, Reza, SHIRAZIAN, Zahra and RAHIMI, Mohammad, with adscription in the Islamic Azad University, as the next article we present, The Effect of Developing E-Marketing and Efficiency Capabilities on the Improvement of B2B Marketing Performance, by JAFARI, Sajad† & SHIRAZIAN, Zahra, with adscription in the Islamic Azad University, as the next article we present, Financial Capacities and export success: Evidence from Small and Medium-Sized Estonian Firms, by MIRANDA-GARCIA, Marta, SEGOVIA-VARGAS, María Jesús, LUKASON, Oliver and VISSAK, Tiia, with adscription in the University of Madrid and the University of Tartu Ülikooli.

Content

Article

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Benchmarking a sister city: Identifying value-adding activities in Tehran compared to Seoul

Evaluación comparativa de una ciudad hermana: Identificación de actividades de valor agregado en Teherán en comparación con Seúl

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Abstract

Using employment statistics based on economic activity groups, the present study was to benchmark the economic status of Seoul (South Korea) to Tehran (Iran). Comparing both cities, it was observed that Tehran had a big gap with its benchmark (Seoul) in terms of seven activity groups including accommodation and food service activities, administrative and support service activities; professional, scientific, and technical activities; information and communication activities, real estate activities, human health and social work activities, as well as financial and insurance ones. Moreover, the contribution of these activity groups to national gross domestic product was reported significant. Thus, with the use of comparative research methodology for this research, it was found that improving these activities could help Tehran claim a much better stance in the network of global cities. In this respect, Tehran's policy makers were recommended to have a special focus on these activity groups. Also, it was suggested to monitor these activity groups on a yearly basis in order to track the changes and identify the new ones. Indeed, Tehran would approach to its benchmark position in the network of global cities by reflecting on these activities and promoting them to fill the gaps between itself and the benchmark city.

Benchmarking, Economic Activity Group, Seoul, Tehran, Value-Adding Activities

Resumen

Utilizando estadísticas de empleo basadas en grupos de actividad económica, el presente estudio fue para comparar el estado económico de Seúl (Corea del Sur) a Teherán (Irán). Al comparar ambas ciudades, se observó que Teherán tenía una gran brecha con su punto de referencia (Seúl) en términos de siete grupos de actividades que incluyen actividades de alojamiento y servicios de comida, actividades administrativas y servicios de apoyo; actividades profesionales, científicas y técnicas; Actividades de información y comunicación, actividades inmobiliarias, salud humana y actividades de trabajo social, así como financieras y de seguros. Por otra parte, la contribución de estos grupos de actividad al producto interno bruto nacional fue significativa. Por lo tanto, con el uso de una metodología de investigación comparativa para esta investigación, se encontró que mejorar estas actividades podría ayudar a Teherán a reclamar una posición mucho mejor en la red de ciudades globales. A este respecto, se recomendó a los responsables políticos de Teherán que se centraran especialmente en estos grupos de actividades. Además, se sugirió monitorear estos grupos de actividades anualmente para rastrear los cambios e identificar los nuevos. De hecho, Teherán se acercaría a su posición de referencia en la red de ciudades globales al reflexionar sobre estas actividades y promoverlas para llenar los vacíos entre ella y la ciudad de referencia.

Benchmarking, Grupo de Actividad Económica, Seúl, Teherán, Actividades de Valor Agregado

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Introduction

Over the last decades, urban development has turned into one of the most significant elements of economic growth in the minds of urban policy-makers (Pierre, 2016; Ahmed, 2018; Wojcik, 2018). Moreover, the European Commission has chosen a set of comprehensive policies as a growth engine for European cities. Economic development and urbanization have been also closely correlated (Kirkby, 2018). In other words; although urbanization, per se, does not act as a mechanism of economic growth, sustainable economic development cannot arise without urbanization (Henderson, 2010).

Certainly, it should be noted that urban areas have, in principle, their own unique features; and for this reason, they may face with unique threats and opportunities (Ahmed, 2018). Considering the differences between various urban areas, the policy of "one size fits all" cannot be appropriate in many cases. In fact, an increasing demand is being developed based on the "spatial" policy which implies the need to shed light on differences in urban areas (Freire-Gibb & Nielsen, 2011).

Moreover, urbanization is regarded as one of the most important accelerators of productivity and economic growth. Until the 1980s, there was a negative and pessimistic attitude to expanding megacities across the world. Then, this view changed by the influence of globalization and increasing expansion of communications. In fact, a deep synergy between economic globalization and urban agglomeration can be considered as a driving factor both for the renaissance of cities in the industrialized world and for rapid urbanization (Sunley et al., 2017).

In the early 21st century, hiring knowledge workers has grown into an essential ingredient of urban competitiveness strategies. The given strategies are often on the basis of theories claiming that cities need to attract highly skilled talents to stay or become economically successful. Indeed, talents move to places where there are job offers (Bontje, et al., 2017). Nevertheless; the role of cities is much more important as a determining power due to changes in economic contexts as well as prevalence of ‘knowledge-based economy’ and ‘cultural economy’ (ibid).

With regard to the current growth rate, urban population would rise up to 5.2 billion by 2050, which is almost about 66% of the world’s population. In 2030, Chinese cities would be home to 1 billion people. Economic potentials brought about by increased productivity, which are regarded as outcomes of urbanization, might also facilitate the processes of value creation throughout national economy via creating innovative and modern technologies and infrastructures (Floater, Rode, & Robert, 2014).Whereas, cities with weak management probably confront with significant economic losses. Dispersion in urban areas, low-quality transportation infrastructure, and lack of basic and underlying services like energy and water supply can similarly limit accesses, so that no regional and foreign investors would like to work with such systems (Floater, Rode, & Robert, 2014; Sassen, 2018).

Today, the destiny of nations is dependent on the performance of their cities at national and international levels (Sassen, 2018). In fact, cities are recognized as the engines of socio-economic development as well as the link between national and international development. Currently, "global network of cities" has been proposed in which the destiny of nations and cities is depended on how they operate and compete in this network. Nowadays, cities can have new functions with the following characteristics:

1. Tendency towards development of knowledge-based economy,
2. Diversity in work and activity centers, and
3. Increased role of socio-economic planning and management (Trettin & Welter, 2011).

Some decades ago, the main role of big cities mostly consisted of industrial, trading, and administrative activities within a national scale (Bhowmik, 2012). Nowadays, together with these activities, other ones such as science and technology research, information and knowledge creation, educational services, travel services, etc. can be included (O'sullivan, 2007; Evans, 2009; Caragliu, 2011). The existing economic potentials can also lead to the formation of vibrant markets and fertile environments for innovation in the domain of ideas through increasing the productivity of the processes which are by themselves the results of the concentration of population in cities and their economic activities (Wiewel & Perry, 2015).

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Tehran, as the capital city and the largest city in Iran in terms of population, is known as the economic center of the country. About 30% of Iran's public-sector workforce and 45% of its large industrial firms are also located in this city (Tehran Municipality, 2016). Nevertheless, this city has not yet succeeded in terms of achieving a favourable international position. In 2016 Global Cities Report, Tehran was ranked 118th among 125 cities (Kearney, 2016). According to neoclassical school of thought, growth around a steady state is determined by the rates of physical capital accumulation, population growth, and exogenous technological progress (Solow, 1956). Mehrara and Rezaei (2015) studied about the "determinants of economic growth in Iran" and indicated that the ratio of oil revenue to GDP is the most important variable affecting economic growth in the economy. In addition, there are some other variables including the ratio of imported capital and intermediate goods to GDP as well as the labor force, which play a vital role in Iran GDP growth.

Mehrara and Rezaei noted that factors such as formation of human capital, do not play a considerable role in growth process (Mehrara & Rezaei, 2015). This situation means that Iran's economic growth is not endogenous. Hence, it has to shift from a traditional management to smart and entrepreneurial approaches for further development (Sriram, Mersha, & Herron, 2007). To this end, there is a necessity to promote its innovative infrastructures and modern technologies via the creation of appropriate platforms for entrepreneurship and to enhance the prosperity of local and national economies through openness and the creation of innovative infrastructures and modern technologies (Healey, 2008).

Despite some studies into Tehran's economic position among regional and global cities, no comprehensive and significant results have been provided for all the facts about this capital city. Thus, the present study was an attempt to explore value-adding activities in urban areas and to identify some activities playing a catalytic role in the economic growth of cities. In this regard, Seoul was considered as a benchmark city. Accordingly; in the second section of this study, theoretical reviews as well as previous works were examined; and after that, in the third section, research method was discussed, and finally some strategies for policy-makers were suggested.

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Literature review

Kulenovic and Cech (2015) noted that economically successful cities can be found in all world regions and within many different kinds of countries - whether they are highly centralized or decentralized; whether their income level is high, low, or moderate; and whether they are perpetually at peace or still recovering from natural or manmade disasters. Moreover; successful cities can be landlocked or maritime, endowed or not with amenities and natural resources, culturally diverse or homogeneous, and also administratively consolidated or fragmented (Haila, 2000; Henderson, 2010; Kulenovic & Cech, 2015). In addition, successful cities can be examples of highly inclusive growth or studies in terms of contrasts between the haves and the have-nots. In other words, they can reflect the contemporary planet of city dwellers, in all its complexities and contradictions (Kulenovic & Cech, 2015).

Recently, economists have focused on creative cities as well as the importance of creativity in the composition of activities and jobs for achieving economic growth (Acs, Bosma, & Sternberg, 2008). In this regard, the main growth engine of global cities (active metropolises) can be dependent on their potentials in the domains of knowledge-based economy and the production and distribution of globally superior services. According to Trettin and Welter (2011), this process has led to the transformation of the structure and the function of urban areas. The most important activities in this domain are:

A. Diversifying the activities of urban centers.
B. Expanding the functions of urban centers at national and international levels.
C. Restructuring urban business districts from one-functional structures to multi-functional ones

Metropolises can also have inevitably a wide variety of old and modern urban centers with different functions, scales, and spatial forms (O'sullivan, 2007). In this respect, location theories also seek to explain the distribution of activities in space aimed to identify factors influencing the location of activities, allocation of different portions of territory among various types of productions, division of spatial markets among producers, and functional distribution of activities (Capello, 2011).

Accordingly, activities in urban centers can be divided into several main groups:

- Centers of economic activities (manufacturing, distribution, transportation, company offices, etc.)
- Historical, cultural, and tourist centers (historical places, markets, memorials, etc.)
- Advanced and superior service centers (financial, legal, educational, communication, medical, etc.)
- Scientific, artistic, and sport centers (research institutes, theaters and cinemas, museums, stadiums, etc.)
- Political, administrative, and diplomatic centers (government bodies, international institutions, embassies, etc.)
- National and international communication centers (airports, terminals, media, telecommunications, etc.) (Trettin & Welter, 2011).

Benchmarking

For a country, a city is considered as a home for its population and most of its industries, especially service industries (Wojcik, 2018). In a global arena, cities are taken into account as representatives of a country or an economy (O'sullivan, 2007; Bhowmik, 2012). In this context, cities are also continually competing for a higher stance in the global network of economies. In this respect, benchmarking is one way to claim a stance for newly entered cities into this global network (Dick & Narang, 2005). In addition, benchmarking is known as a process measuring performance using specific indicators that are comparable across different entities (Atkinson & Wu, 2017). It is also recognized as a process measuring performance using specific indicators that are comparable across different entities (Meares, Owen, Murray, Mohammadzadeh, & Rohani, 2015).

According to Business Dictionary, benchmarking refers to "a measurement of the quality of an organization's policies, products, programs, strategies, etc., and their comparison with standard measurements, or similar measurements of its peers" (Business Dictionary, 2017). Originally, benchmarking is related to businesses.

However, it can be also used for cities because of similarities between urban administration and business one. Moreover, city benchmarking can be conceptualized as measuring and monitoring the performance of cities against a number of comparable and/or 'best practice' cities (SGSEP, 2009). However, four types of benchmarking studies have been suggested by Taylor including business cost-oriented studies, livability-oriented studies, performance-oriented studies, and inter-sectorial studies (Taylor, 2011).

Research Method

This study was to identify some applicable value-adding activities to Tehran as the capital city of Iran. In this study, international benchmarking of cities could be a useful measure for local government's policy-making and decision-making processes. It could also allow policy-makers to identify different aspects of a city they could improve. Moreover, they could monitor the performance of the cities overtime in order to identify new changes. It should be noted that benchmarking is not limited to a certain set of factors or aspects, but it can be used in every possible comparison between two entities. Nevertheless, SGS (formerly Société Générale de Surveillance), in its attempt to benchmark some of Pacific Rim cities (Auckland, Wellington, Sydney, Melbourne, Brisbane, and Vancouver) identified a number of dimensions including skilled labor force, innovative capacity, livability, cultural capital, environmental performance, and effective governance (SGSEP, 2009). In this study, employment statistics were used as an indicator of inter-sectorial performance of cities. Thus, this study was an inter-sectorial benchmarking investigation from Taylor's (2011) typology viewpoint.

Most of successful and advanced cities (London and New York e.g.) had a significant distance with Tehran, so there was simply no possibility to make a logical comparison between Tehran and such cities. In this study, Seoul was used as the benchmark. There were some similarities between these two cities providing logical reasons to perform the present benchmarking:

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Tehran and Seoul were sister cities and this was the most important reason to compare them together. They also had a long history of cooperation in terms of urban affairs. For example, *Teheranno*, the so-called Silicon Valley of South Korea, is a street named after Tehran. Indeed, the other reasons for choosing Seoul as a benchmark for Tehran were listed below:

– South Korea and Iran have started development paths at the same time in the 1960s.

– Populations in Seoul and Tehran are almost equal.

– Municipal areas in Seoul and Tehran are approximately equal (686km^2 for Seoul and 605km^2 for Tehran).

So, this study had a closer look at Seoul with a global scale compared with Tehran. Then, the resources and capabilities of these two cities were compared to find the gaps between Tehran and its benchmark city, Seoul.

Comparing Tehran and Seoul

Tehran's gross domestic product (GDP) in 2017 was about $100 billion, whereas Seoul's GDP in 2017 was $420 billion (The World Bank, 2017). Tehran's weakness was not limited to the GDP in terms of its comparison with Seoul, but much deeper shortcomings were observed in the domain of workforce makeup. In the following Table (Table 1), workforce makeup in both cities was compared concerning major economic activity groups. These data were shown in the International Standard Industrial Classification of All Economic Activities (ISIC) for major economic activity groups.

Major activity groups	2011	2014	Share (Percentage)			
	Tehran	Seoul	Tehran	Seoul	difference	Rank
Agriculture, forestry, and fishing	22,823	214	0.9%	0.0%	-0.9%	14
Mining and quarrying	22,631	652	0.9%	0.0%	-0.9%	13
Manufacturing	428,989	283,523	17.8%	6.0%	-11.8%	19
Electricity, gas, and steam and air conditioning supply	18,371	7,771	0.8%	0.2%	-0.6%	12
Water supply, sewerage, and waste management and remediation activities	10,175	6,788	0.4%	0.1%	-0.3%	11
Construction	174,255	283,226	7.2%	6.0%	-1.2%	15
Wholesale and retail trade, and repair of motor vehicles and motorcycles	443,907	859,536	18.4%	18.1%	-0.3%	10
Transportation and storage	231,515	260,415	9.6%	5.5%	-4.1%	17
Accommodation and food service activities	32,861	462,721	1.4%	9.8%	8.4%	1
Information and communication	81,956	328,519	3.4%	6.9%	3.5%	4
Financial and insurance activities	85,290	257,413	3.5%	5.4%	1.9%	7
Real estate activities	21,612	154,768	0.9%	3.3%	2.4%	5
Professional, scientific, and technical activities	83,357	422,525	3.5%	8.9%	5.5%	3
Administrative and support service activities	30,371	378,699	1.3%	8.0%	6.7%	2
Public administration and defense, and compulsory social security	278,229	129,059	11.5%	2.7%	-8.8%	18
Education	154,246	318,984	6.4%	6.7%	0.3%	9
Human health and social work activities	99,514	298,024	4.1%	6.3%	2.2%	6
Arts, and entertainment and recreation	23,253	78,509	1.0%	1.7%	0.7%	8
Associations and organizations, and repairs and other personal services	170,214	208,537	7.1%	4.4%	-2.7%	16
Total	**2,413,569**	**4,739,883**	**100/0**	**100/0**		

Table 1 Major economic activity groups in Tehran and Seoul
Sources: Statistics Korea, 2014; Statistical Center of Iran, 2011

The first point worth noticing was that data from both cities were actually slightly different in terms of the time being released. The data for Tehran were based on the last nationwide census taken in 2011; whilst, those for Seoul were based on its workforce statistics released in 2014 by Statistics Korea yearbook. Indeed, in this Table, the workforce in both cities was divided into 19 activity groups (based on the ISIC Rev.4). The total population of Tehran at the time of data collection was 8.2 million, while the total population of Seoul was about 10 million. As well, the employed population in Tehran was about 2.4 million while that was reported 4.7 million in Seoul. Furthermore, the participation ratios were 44% and 38% in Seoul and Tehran; respectively.

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The radar chart presented in chart 1 compared employment status within both cities considering the economic activity groups in the best way. Indeed, this chart was based on the percentage of employment by the given activity groups from the total employment.

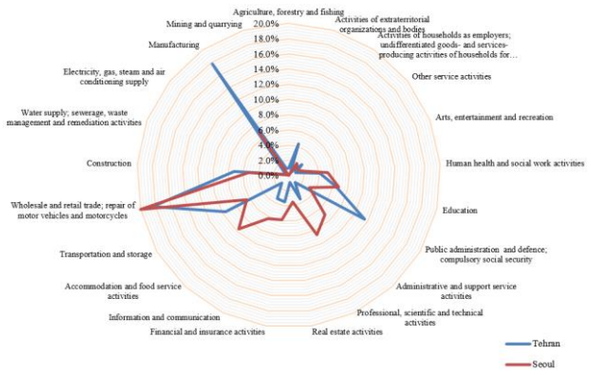

Chart 1 Radar chart comparing economic activity groups in Seoul and Tehran

This chart showed that the pattern of employment distribution in various activity groups for both cities was very similar. This could be another reason why Seoul was chosen as the best benchmark city for Tehran. But, there were some differences between these two cities, a fact that needed more contemplation.

As can be seen in chart 1 and table 1, there were distances between these two cities in terms of workforce makeup. Comparing the percentage of every activity group in both cities, seven major activity groups were identified revealing that Tehran had much distance from its benchmark city, Seoul. These activity groups, listed below, entailed 48% of employment in Seoul; whilst, they only accounted for 18% of employment in Tehran. These groups were as follows:

1. Accommodation and food service activities
2. Administrative and support service activities
3. Professional, scientific, and technical activities
4. Information and communication activities
5. Real estate activities
6. Human health and social work activities
7. Financial and insurance activities

Indeed, it seems that Tehran's economic policy-makers ought to focus much more on these seven activity groups. According to the statistics, these activity groups can actually have a major economic power.

Accordingly, each of these activity groups in both Seoul and Tehran were analysed with more detailed information. In general, investment is one of the macroeconomic variables that can play a significant role in promoting the country's economic goals and achieving higher economic growth and development. Basically, since investors are seeking to make profits, they are looking for market that has a low investment risk and, grater profit. On the other hand, most developing countries depends on capital mobility from low productive to more productive sectors. In general, capital mobility is one of the vital sources of growth and development of nations (Edwards, 2001).

1. Accommodation and Food Service Activities

According to chart 2, the contribution of tourism and travel to global economy was nearly $8 trillion in 2017 employing over 107 million people directly and 125 million people indirectly in tourism- and travel-related jobs. The increasing share of tourism in world economy, over $11 trillion by 2027, also indicated the increasing importance of this industry for global economy (World Travel and Tourism Council: WTTC, 2017).

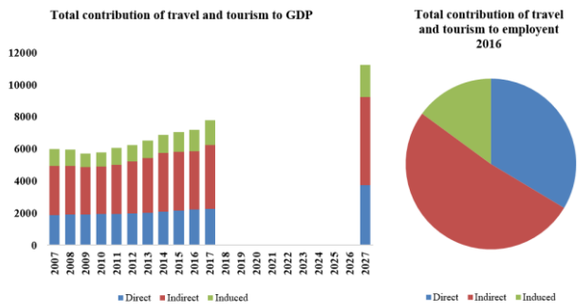

Chart 2 Total contribution of travel and tourism to global GDP and employment

According to the WTTC, tourism industry has created over 277 million jobs over the period of 2007-2017, i.e. one in eleven jobs in the world is related to travel and tourism. This council has also reported that, in the recent years, tourism sector and the main economic sectors such as motor vehicle, finance, and healthcare have shown high growth rates, a situation that will continue years ahead. In 2014, tourist attraction in countries has also reached to 1.14 billion people in total (ibid).

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In 2015, nearly 13 million foreign visitors entered South Korea, while it was reported by 14.5 million visitors in 2014 (Visitkorea, 2016). In 2014, the direct contribution of tourism to Korean economy was about 2%, while its total contribution was 5.8% in the same year (WTTC, 2015).

Visitors from emerging economies share 46% of the world total foreign tourist visits in 2013, which is a tremendous increase from 2000 with 38% share. According to the WTTC, nearly 476 thousand jobs in 2015 were directly related to tourism industry in Iran (about 1.8% of the total employment). These jobs included working in hotels, travel agencies, airlines, and other commuting systems (WTTC, 2016). Also, This data reflected the economic activities created by such institutions. Travel and tourism sector's share in the domain of national output was 294 trillion rials, 2.5% of the total output in 2015 and there was a forcast that it would rise by 6.7% in 2016. However, Iran stands in 135th of global ranking in terms of the contribution of the given sector to the GDPs of countries. The contribution of travel and tourism to Iranian economy will also rise by 4.9% anually from 2016 to 2026, then it will reach to 2.8% of the total output.

The WTTC has also emphasized that travel and tourism sector, in addition to its direct contribution, can also have an indirect contribution to national economies. So, the total contribution of this sector is the sum of its direct and indirect contributions. According to the WTTC, the total contribution of this sector to Iranian economy in 2015 was 793 trillion rials, equivalent to 6.7%t of the GDP, and it was estimated to rise by 5.9% in 2016.

In addition, estimates suggested that the total contribution of this sector to Iranian GDP would also rise by 4.7% annually and reach to 1334 trillion rials by 2026 (7.3% of the GDP) (WTTC, 2016). It is worth mentioning that Iran is a Muslim country and there is opportunity to tourism attraction from Muslim countries. Demands for halal products and services have increased with the development of tourism and the geographical mobility of tourists. The provision of halal items for travellers from the world's 52 Muslim countries would provide a competitive advantage for destinations targeting this segment of tourism (Olya & Al-ansi, 2018)

2. Administrative and Support Service Activities

Since becoming the capital city, Iran's political and governmental system has been intensively housed in Tehran. In fact, all socio-economic activities have been placed in Tehran from 1956 through relying on incomes from crude oil and this city has become the center of decision-making and policy-making at macro-levels and establishing governmental bodies. Furthermore, most of companies have established their headquarters in Tehran and many of them have also placed their factories in this city as well. In fact, Tehran has become the sole economic center of Iran holding most of the Iranian businesses in it (Central Bank of Iran, 2016). However, figure 1 showed the ratio of land use from administrative activities to other uses among different municipal districts of the city. This map was retrieved from the latest version of the Atlas of Tehran Metropolis (2006).

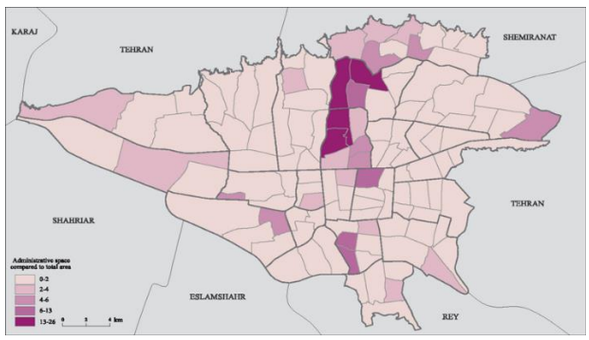

Figure 1 Ratio of land use from administrative activities to other uses in Tehran

As illustrated in figure 1, districts in the center of the city had the highest ratios in contrast to other districts, mostly because they were somehow older than other districts (Tehran Municipality, 2006).

3. Professional, Scientific, and Technical Activities

The European Union-28's (EU-28's) professional, scientific, and technical activity sector (NACE Section M) numbered some 245 thousand enterprises in 2014, employing 12.1 million individuals generating EUR 667.5 billion of value-added. The contribution of this sector to the non-financial business economy was 18.2% of the enterprise population, 8.9% of the workforce, and 10.1% of the value- added (Eurostat, 2018).

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It should be noted that labour productivity of the EU-28's professional, scientific, and technical activity sector in 2014 was EUR 55 thousand per person employed, that was slightly above the non-financial business economy average of EUR 48.5 thousand per person employed. Along with this high labour productivity; average personnel costs within the professional, scientific, and technical activity sector were EUR 45.3 thousand per employee, which was above the average for the non-financial business economy that was EUR 33.3 thousand per employee (Eurostat, 2018).

While professional, scientific, and technical activities could contribute to 3.5% of the workforce in Tehran, its contribution to the workforce in Seoul was 8.9%, just the same as that in the EU. This figure revealed a big gap in the domain of workforce formation between Tehran and Seoul.

4. Information and Communication Activities

Recently, all countries have started to invest in information and communication technology (ICT) sector, because they have realized the significant role of ICT in socio-economic stability (Avgerou, 2010). In fact, investment in ICT is considered as one of the main drivers of economic development in emerging and developed countries (Thompson, 2008).

With an increasing speed, the ICT sector (including computer hardware and software, network services, electronic device manufacturing, etc.), can also play a key role in global economy (Voda, & Radu, 2018). According to the data released, 5% of gross world product (GWP) between 2003 and 2008 has come from ICT sector (Beardsley, Enriques, Bonini, Sandoval, & Brun, 2010). In 2008, these figures have risen to 5.4% and there is a forecast that they would reach to over 8.7% by 2020. Because of its production size and nature, ICT sector can play a significant role in economic growth. Also, thanks to its unique nature, ICT can have a leading role in the production of nearly all other goods and services. Following the development of technologies like the Internet and its related affiliates, ICT is able to make businesses become familiar with the business environment and be more efficient within a whole process for the benefit of these businesses and the rest of the economy.

According to McKinsey, mobile broad band penetration to emerging markets can also have a potential of creating incomes by $300 to 420 billion. In addition, it can account for 7 to 10% of jobs (directly and indirectly) in related industries.

In 2016, Iran's ICT industry output was $21 billion and it was estimated that it will rise to $30 billion by 2020 (Ministry of Communication & Information Technology Iran, 2017).

5. Real Estate Activities

Economic activities of any type in each region can have their own direct and indirect benefits. Some of these activities can be defined in real estates. It is also clear that investment in real estate sector can induce growth and increase economic power of cities (Munja, Bhide, & Kolli, 2014). In fact, real estate is considered as one of the biggest investment areas in an economy; i.e. approximately 2 to 8% of world output comes from real estates and it also absorbs 10 to 30% of global investment expenditure (Ghaderi, Eslamloueyan, & Owjimehr, 2011). In some cities like Singapore and Hong Kong, real estate also plays a significant role in economy due to its scarcity to businesses located in these cities (Haila, 2000).

In Iran, investments in real estates have grown by 11.2% annually over the last decade. Some of the factors affecting the amount of investment in real estates are real estate price index, instruction cost, liquidity, and household income. Moreover, other factors which can indirectly influence investment in real estates are shares and deposits in which rises in prices (interest rate in the case of deposits) can lead to a decline in investment in real estates (ibid). As well, investments in real estates can have their own impacts on many aspects of economy. Literature on this topic has also shown that value-added in this industry does not solely belong to real estate businesses, but it also goes to many other industries.

According to Tehran Real Estate Market monthly report, the total real estate transactions in March 2016 was 5918 incidents indicating a relatively 20% increase from the same period of time in 2015. The average housing price index was also reported by $1000 for $1m^2$ housing space, revealing a 5% increase from March 2015 (Central Bank of Iran, 2016).

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6. Human Health and Social Work Activities

According to hall and Nguyen (2018), public spending in the economy has not stifled economies, but fundamentally is associated with economic growth. One of the biggest components of household expenditures is healthcare. According to a report on healthcare expenditure in 2013, healthcare spending in the Organisation for Economic Cooperation and Development (OECD) member countries can contribute to 9.3% of the GDP (OECD, 2015).

Similarly, Eurostat (2017) reported that the level of current healthcare expenditure in Germany was €321 billion in 2014 - the highest value among the EU member states - equivalent to 11% of the GDP for 2014. France also recorded the second highest level of current healthcare expenditure (€237 billion), followed by the United Kingdom (€223 billion) (Eurostat, 2017). The contribution of healthcare expenditure to the GDP in Iran has been also reported by 6.9% in 2014, while it was 7.4% for the same year in South Korea (The World Bank, 2014). Since health care has been known as a key component of any industrialized economy (Squires, 2012).

Developing countries like Iran tries to develop its capabilities in drug and health section. Hence, this needs for highly skilled workers which leads to a rise in healthcare expenditure. Being the centre of medical care sector in Iran; Tehran has the highest and the most advanced number of hospitals and clinics. So, it is endowed with national potentials to expand its healthcare industry.

7. Banking and Financial Services

Recent studies on financial sector show its positive role in enhancing growth rate of economies in developing countries. In fact, financial sector can increase local and foreign investment and consequently empower financial competitiveness of these countries (Sharman, 2010). According to the latest ranking of world financial centers, Seoul was reported as the 7th biggest financial center of the world, jumping 3 steps from its previous rank in 2014 which was 10th (Global Financial Center , 2015).

Today, it is assumed that financial sector, especially insurance activities, can play a major role in economic growth and prosperity. Therefore, describing how insurance affects economic growth and identifying the link between insurance and growth rate are really important for policy-making. On the one hand, insurance is a financial institution enhancing economic power of nations, and on the other hand, it can provide the basis for the expansion of economic activities by creating assurance. In other words, insurance companies can create financial stability and reduce uncertainty by recovering business losses. They are also considered as very close successors for government compensation programs. Another point is that, insurance companies help to better allocate economic resources by their investment activities (Jafari & Kardgar, 2007).

Financial development by various channels can also help in enhancing economic growth. These channels include diversifying the risk, reducing liquidity risk, as well as reducing information asymmetry between loaners and borrowers. Moreover, financial institutions can have an effect on investment decisions and economic growth by six functions; reduction in search costs for potential investment opportunities, practice of corporate governance, risk diversification and management, integration of savings, exchange of products and services, as well as reduction of casual shocks on investments.

These functions can aid in reducing exchange costs in liquidity risk preference and fix market failure and consequently increase economic growth rates by better allocation of resources. Furthermore, insurance companies can mobilize individual savings and direct them to the businesses in need (Mirzaei, Hasani, & Nooreddini, 2015).

According to Tehran's Planning and Employment Association, in March 2014, the total non-governmental banking deposits in Tehran was indicated in Table 2 (Departmant of Planing and Employment of Tehran Province, 2014).

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Type	Amount (trillion Iranian rials)	Changes in last month (%)	Changes in last six months (%)
Private-sector deposits	2000	6.4	33.6
Checking deposits	502	10	59.6
Non-checking deposits	1498	5.2	26.7
Savings deposits	61	-7.6	-45.9
Investment deposits	1437	5.9	34.4
Short-term investment deposits	647	9.4	28
Long-term investment deposits	789	3.1	40.2

Table 2 Banking deposits in March 2014 in Tehran
Source: Departmant of Planing and Employment of Tehran Province, 2014

As can be seen in Table 2, private-sector deposits (checking and non-checking) and investment deposits (short-term and long-term) had increased dramatically over the last one-month and the six-month period (related to March 2014). In contrast, savings deposits showed a severe decrease in these periods. One reason for this was the worsened economic situation in that period of time plus the increase in interest rates in private-sector and investment deposits, while the savings deposits had actually zero interest. In the following Table (Table 3), statistics of insurance industry in Tehran were retrieved from insurance industry yearbook released in 2016. In Table 3, some indices of insurance sector both in Iran and South Korea, as well as the world over, were illustrated (Central Insurance of Iran, 2016).

	Iran	South Korea	World
Total insurance premium (million dollars)	7554	153620	4641000
Per capita insurance premium (dollars)	96	3034	621
Insurance penetration (percent)	2.08	11.42	6.23

Table 3 Insurance industry indices in 2015

According to Table 3, Iranian insurance sector was well behind South Korea and even world average, since premium per capita for Iran was about one-seventh of the world average premium. Comparing with South Korea, this index was much less and it was only 3%. Indeed, there was a tremendous need for developing this sector in Iranian economy. Possibly, the premium difference between these two countries could be related to differences in both of their GDPs and populations, but the important case was that insurance penetration in Iran was less than one-sixth of that in South Korea.

Indeed, these data showed the necessity of developing this sector in Iranian economy. Insurance premium paid in Tehran was 62.7 trillion rials accounting for 38% of the total premium in Iran. So, it was concluded that Tehran was home to 38% of insurance market of Iran (Central Insurance of Iran, 2016). Table 4 showed the market share for the 8 biggest insurance companies in Tehran's insurance market.

Company	Share of premium paid (billion rials)	Share of premium paid (percentage)
Iran Insurance Corporation	27330	43.6
Asia Insurance Corporation	5400	8.6
Parsian Insurance Corporation	4437	7.1
Dana Insurance Corporation	3760	6
Alborz Insurance Corporation	3570	5.7
Kosar Insurance Corporation	2820	4.5
Sina Insurance Corporation	2190	3.5
Kar Afrin Insurance Corporation	2070	3.3

Table 4 Share of companies in Tehran's insurance market
Source: Central Insurance of Iran (2016)

According to the data provided in Table 4, 43%t of Tehran's insurance market was dominated by Iran Insurance Corporation making it a market leader. Other companies' market share was reported less than 10%.

Conclusions and Policy Recommendations

The purpose of this study was to identify value-adding activities in Tehran through a benchmarking approach. In this regard, considerable similarities were found between Tehran and Seoul as politically sister cities. The indicators used in the present study to compare Tehran with Seoul were also based on the data related to major economic activity groups (based on the ISIC). The results revealed that the economic activity groups in Tehran were different from those of its counterpart. There was also a focus on activity groups showing the biggest gaps in the comparison between Seoul and Tehran and seven activity groups were then chosen in this regard including accommodation and food service activities, administrative and support service activities.

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Professional, scientific, and technical activities, information and communication activities, real estate activities, human health and social work activities, as well as financial and insurance activities. Then, each of these activity groups was discussed separately in order to identify their roles in the economy. Not surprisingly, these activity groups, related to their respected industries, had major roles in national and global economy. Their contributions to national GDP were also dramatic.

According to political economists, the neoclassical economic growth theory could be stated by a general equation in which it is supposed that GDP is affected by the production factors used, that is, labour force, capital, their productivity and institutions. These economists, specially, focus on natural conditions, government and international relationships.

Later, many theoreticians, particularly those who had been brought up under the neoclassical tradition, ignored the importance of institutions in the process of economic growth. However, many studies, published during the last two decades, have once again confirmed the importance of institutions as the supporting factors of economic growth.

In other words, capital mobility from a section to another depends on institutional environment of every country. Fundamental elements of institutional framework for capital mobility are sectoral regulatory systems, tax regulations and government policies. Therefore, it can be concluded that Tehran could claim a much better stance in the network of global cities by engagement of all economic actors and improving mentioned activities.

Moreover, Tehran's policy-makers were recommended to have a special focus on these activity groups. Also, it was suggested to monitor these activity groups on a yearly basis in order to track the changes. Indeed, Tehran could approach to its real stance in the network of global cities by reflecting on these activities and improving them to fill the gaps between itself and its benchmark city.

Research Limitations

All research studies can have their own limitations. One of the main limitations to this research was lack of previous studies about benchmarking cities using their economic sectors and the second limitation was related to statistical differences in specific periods for both cities. It should be noted that these limitations could influence the study results, but they could not change the main findings.

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Investigating the effect of entrepreneurial intensity on creating competitiveness capabilities and export performance

Investigar el efecto de la intensidad empresarial en la creación de capacidades de competitividad y el rendimiento de las exportaciones

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Abstract

The objective of this study was investigation of the entrepreneurial intensity and strategic orientation role in creating competitiveness capabilities and export performance. The present research is an applied and quantitative survey that was done in a Cross sectional method. The population of this study include 1900 staff of Ilam petrochemical company that a sample of 372 members of them was selected among them by simple-random method and without replacement. Data gathering tool in this research was standard questionnaire that its validity and reliability were evaluated and confirmed. In order to data analysis the structural equations based on the minor least squares was used and was performed by PLS smart software. The obtained results indicate that the entrepreneurial intensity has a significant effect on the strategic orientation, competitiveness capabilities and export performance. Also the finding confirm this fact that the strategic orientation has a significant effect on the competitiveness capabilities and export performance. Also they showed that the competitiveness capabilities has an significant effect on the export performance.

Entrepreneurial intensity, Strategic orientation, Competitiveness capabilities, Export performance

Resumen

El objetivo de este estudio fue investigar la intensidad empresarial y el rol de orientación estratégica en la creación de capacidades de competitividad y el desempeño de las exportaciones. La presente investigación es una encuesta aplicada y cuantitativa que se realizó en un método de corte transversal. La población de este estudio incluye 1900 empleados de la compañía petroquímica Ilam, de los cuales una muestra de 372 miembros de ellos fue seleccionada entre ellos por un método aleatorio simple y sin reemplazo. La herramienta de recopilación de datos en esta investigación fue un cuestionario estándar que evaluó y confirmó su validez y confiabilidad. Para el análisis de los datos, se utilizaron las ecuaciones estructurales basadas en los mínimos cuadrados menores y se realizaron mediante el software inteligente PLS. Los resultados obtenidos indican que la intensidad empresarial tiene un efecto significativo en la orientación estratégica, las capacidades de competitividad y el desempeño de las exportaciones. También el hallazgo confirma este hecho de que la orientación estratégica tiene un efecto significativo en las capacidades de competitividad y el rendimiento de las exportaciones. También demostraron que las capacidades de competitividad tienen un efecto significativo en el desempeño de las exportaciones.

Intensidad empresarial, Orientación estratégica, Capacidades de competitividad, Desempeño exportador

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Introduction

The rapid growth in the new technology, increasing demand of the customers, intensity of competition in the market and globalization are some of reasons that confirm this fact that "the market have changed significantly". The market globalization has caused more changes. Accordingly less number of the companies can distance from threats and use of opportunities. The companies interaction method in this market was appeared in different forms that one of useful cases of them in the international business is exports (Akbary. et Al; 2015). An important factor in the export performance is entrepreneurial and it's intensity in the organization. Entrepreneurial and exports are two essential elements in the country's economic growth process through creating or development of business.

The entrepreneurial with creating and transmission of knowledge and increasing competitiveness and diversity help to economic growth. The exports also with development of internal industry, productivity and employment has a positive effect on the rate of the national reserves and prosperity, also from human capital and technology lead to learning.

The entrepreneurial and exports separately in the marketing theoretical bases, management and economy have been under attention and the academies have attend to the new investment based on exports in the international entrepreneurial in the past decade (Rastegar & Shabani; 2016). On the other hand it should be mentioned that the exporter organizations success in the international market is not accidental. The competition in one hand and the constant changes on the other hand cause the organization face to complex conditions that need to long-term strategy and planning.

Accordingly one of the preliminaries of having a successful exports is having a long-term strategy and planning and the essentials of the correct strategy and planning is having its preliminaries such as correct strategic orientation. The strategic orientation is defined as a competitive action in the market (Mostaleh-et Al; 2016). Accordingly the global competition and the customer's expectations increasing have led to this fact that the producer focus on the delivery speed and reliability and flexibility more than past (Nazemi & Khavidar; 2010).

This case refer to the company competitiveness capabilities in the competition field. The abilities are some of actions that a company can do better than its rivals. In the field of the market oriented competitive strategy, the entrepreneurship is a determinant factor of the identified strategy. The organization entrepreneurship approach is an important factor in determination of its competition approach. The organizational entrepreneurship is the products development process or new markets.

The obtained evidences indicate that the entrepreneurial intensity can effect on the organizations performance. On the other hand the organization's strategic positioning in the market has an important role in its export performance. The strategic orientation is guide principles that have effect on the marketing and business strategy of the company.

They reflect the performed strategic instructions of a company that leads to correct behaviors for better performance (Theodosiou. et Al; 2012). Strategic orientation is defined as the method of a company for accommodation with external environment (Madanglu et al; 2011). The strategic orientation of understanding the special management, preparations, tendencies, motivations and demands that guide the strategic planning and strategic development (Mostaleh. et al; 2016) and finally it should be mentioned that the success is not appeared in the performance unless with increasing and improving the competition capability of the organization.

Literature review

Entrepreneurial intensity model

Parakash et al (2015) in their study with positivism approach used of the measuring device for measuring the intensity of the entrepreneurship with three components of pro-activeness, risk taking and innovativeness . This model is showed in the following figure:

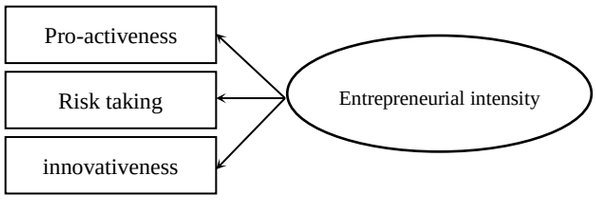

Figure 1 The entrepreneurial intensity model (Parkash et Al; 2015)

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Pro-activeness: include significant perseverance, compatibility and capability in looking the future (Parkash et al; 2015).

Risk taking: include tendency to significant tendency to source assignment to the opportunities when they may face to failure (Parkash. et al; 2015).

Innovativeness: refers to innovative, unusual or new solutions for problems and needs (Parkash. et al; 2015).

Organization strategic orientation: means the organization competition culture or the method of business management in the competitive market (Brower & Rowe; 2017).

Organization strategic orientation model

Brower & Rowe (2017) used of conceptual device for measuring the organization strategic orientation that has four components of customer trends, competitor trends, cross-functional co-operation and shareholder trends. This model is showed in the following figure:

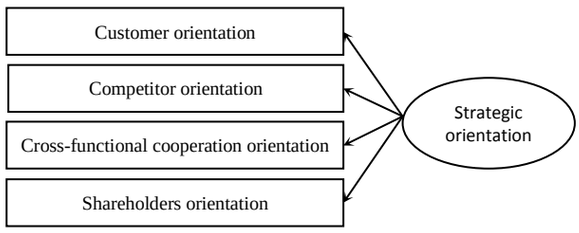

Figure 2 Organization strategic orientation model (Brower & Rowe 2017)

Customer orientation: explains the culture of company in which the customers are regarded as a prefered actors or not (Brower & Rowe; 2017). Competitor orientation: refer to this fact that to what extent a company focus on weaknesses and strengths and threats of its main competitor considering the opportunities, threats, weaknesses and strengths (Brower & Rowe ; 2017).

Cross-functional cooperation orientation: refers to sharing and consent culture of working to each other that is a basis of inter sectional interaction activities and focus on the effectiveness and efficiency that facilities the relationship between different functions of the organization (Brower & Rowe; 2017).

Competitiveness capabilities model

Sardana. et al in their study used a model with two components of delivery capability and cost control capability for measuring the concept of competitiveness capabilities. This model is showed in following figure:

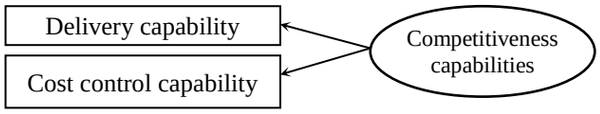

Figure 3 Competitiveness capability model (Sardana. et al; 2016)

Cost control capability: explains the existence of the workers costs unit and product production entire costs in the organization (Sardana et al ; 2016).

Export performance model

Is a variable that inherently is related to the export performance. The export performance is identified as a limitation that in which the agency purposes (such as strategic and economic purposes) for exporting a product is fulfilled through planning and performing the export marketing strategies. (Moshabaki & khademi; 2012), Ouva. et al (2015) in their study consider the export performance as a case that have three dimensions of financial performance, strategic performance and acceptable performance that are showed it the following figure:

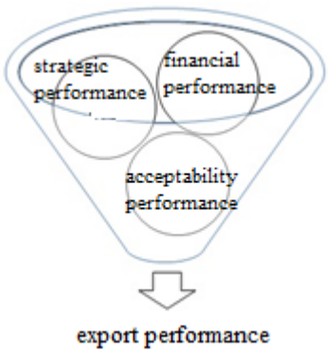

Figure 4 Export performance model (Oura. et al ;2015)

Financial performance: refers to the growth rate of the product- market exports investment and the rate of profitability and it's sale volume (Oura. et al; 2015). Strategic performance: explains the role of product exports investigation- market in improving and strengthening the competitive and strategic situation and achievement of an organization to the export objectives (Oura. et al; 2015).

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Acceptable performance: controls the acceptability, success and accommodation of market- product export investment with expectations of the organization (Oura et al; 2015).

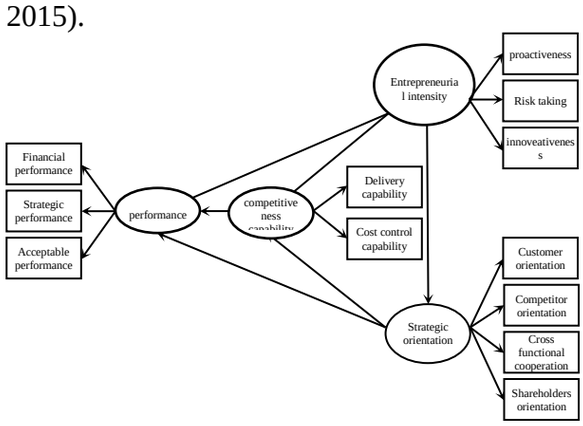

Figure 5 Research performance model: (sources: parkas et al, 2015; Brower & Rowe, 2017; Sardana et al, 2016; Oura et al, 2015)

Research Hypothesis

The first hypothesis: Entrepreneurial intensity has a significant effect on the export performance.

Sub hypothesis:

- Sub hypothesis 1-1: Pro- activeness has a significant effect on the export performance.
- Hypothesis 2-1: Risk taking has a significant effect on the export performance.
- Sub hypothesis 3-1: Innovativeness has a significant effect on the export performance.

The second hypothesis: The entrepreneurial intensity has a significant effect on the strategic orientation.

Sub hypothesis:

- Sub hypothesis 1-2: Pro-activeness has a significant effect on the strategic orientation.
- Sub hypothesis 2-2: Risk taking has a significant effect on the strategic orientation.
- Sub hypothesis 3-2: Innovativeness has a significant effect on the strategic orientation.

The third hypothesis: The entrepreneurial intensity has a significant effect on the competitiveness capabilities.

Sub hypothesis:

- Sub hypothesis 1-3: Pro-activeness has a significant effect on the competitiveness capabilities.
- Sub hypothesis 2-3: Risk taking has a significant effect on the competitiveness capabilities.
- Sub hypothesis 3-3: Innovativeness has a significant effect on the competitiveness capabilities.

The forth hypothesis: Strategic orientation has a significant effect on the competitiveness capabilities.

Sub hypothesis:

- Sub hypothesis 1-4: The customer trends has a significant effect on the competitiveness capabilities.
- Sub hypothesis 2-4: Competitor trends has a significant effect on the competitiveness capabilities.
- Sub hypothesis 3-4: The cross- functional co-operation trends has a significant effect on the competitiveness capabilities.
- Sub hypothesis 4-4: The shareholders trends has a significant effect on the competitiveness capabilities.

The fifth hypothesis: Strategic orientation has a significant effect on the export performance.

- Sub hypothesis: Customer's orientation has a significant effect on the export performance.
- Sub hypothesis 2-5: Competitor orientation has a significant effect on the export performance.
- Sub hypothesis 3-5: Cross- functional cooperation trends has a significant effect on the export performance.
- Sub hypothesis 4-5: Shareholders trends has a significant effect on the export performance.

The sixth hypothesis: The competitiveness capabilities has a significant effect on the export performance.

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Sub hypotheses:

– Sub hypothesis 1-6: Delivery capability has a significant effect on the export performance.
– Sub hypothesis 2-6: Cost control capability has a significant effect on the export performance.

Literature Review

Kadivar (2017) performed his research under the title of the effect of the trend to entrepreneurship on the export performance intensity with emphasize on the organizational variables. The results of this study indicate that the entrepreneurship variable has effect on the innovation and learning variables. Also there is a relationship between the innovation variables and uncertainty with export intensity and there is not a significant relationship between the organizational learning variable and export intensity.

Aslanlou & Khodami (2018) in a study under the title of the effect of knowledge inertia and the entrepreneurship intensity on the brand performance tried to investigate the effective inter organizational and extra organization factors on the organization brand with a combined approach. The obtained results indicate that the organizational innovation and organizational learnability in three market oriented dimensions of market -based learning, Relationship based learning and internal focused learning played mediation role in the relation making between knowledge inertia and entrepreneurship intensity with brand performance.

Nazemi & Kharidar (2010) performed a study under the title of the effect of integrated supply chain on the competitive capabilities in food and beverage industries of Mashhad city. The obtained results of this study indicate that the internal integration and external integration have a positive effect on the improving of the competitive capabilities of company.

Akbari et al (2015) performed a study under the title of (investigating the effect of entrepreneurship trend and innovation ambidexterity on the export performance of the new products with decreasing the intensity of the product innovation in automotive industry.

The obtained results indicate that tendency to entrepreneurship has a significant effect on the innovation ambidexterity and export performance of the new products.

Mosleh. et al (2016) performed a study under the title of the effect of the strategic orientation dimension on the export performance of export companies of Booshehr province. The obtained results indicate that the aggressive strategy has not a significant effect on the export performance and futuristic strategy, pro-activeness and risk taking have a positive and significant on the export performance.

Sedigh. et al (2016) performed another study under the title of determination of the effect between the strategic orientation with organizational performance. The obtained results indicate that the business strategy has a significant role in the organizational performance and over activation foresight, analytical and risk fullness and defensive dimensions have a positive and significant relationship with organizational performance.

Mosleh. et al (2016) performed a study under the title of the effect of strategic orientation dimensions on the export performance of the export companies of Booshehr province. The obtained results indicate that the aggressive strategy has not a significant effect on the export performance and futuristic strategy, pro-activeness and risk taking have a positive and significant effect on the export performance.

Hajipour. et al (2015) performed a study under the title of the effect of strategic orientation and marketing capabilities on the export performance. The obtained results of this study indicate that the marketing capabilities have a significant effect on the export performance.

Customer's trends, competitors trends and cost trends have a significant effect on the marketing capabilities while the innovation trends has not a significant effect on the marketing capabilities. On the other hand customer's trends have a significant and positive effect on the export performance while the competitor trends and innovation trends have not any effect on the export performance.

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Zarei Matin. et al (2010) performed a study under the title of investigating the relationship between the strategic orientation of a company with organizational performance by means of balanced scorecard approach. The obtained results of this study indicated that the business strategy has a significant effect on the organizational performance and the over activation, foresight, analytical and risk fullness dimensions have a positive and significant relationship with organizational performance.

Asiaban Rezaei (2010) performed their research under the title of the investigating of the strategic orientation effect on the new product development (evidences of the accepted companies in the Tehran stock exchange). The obtained results of this study indicate that the strategic orientation (market orientation dimension) has a significant and direct and indirect effect on the three dimensions of strategic orientation market-based, learning-based and entrepreneurship based on the new product development. Also the significant effect of processing mechanisms variables as a mediator variables was confirmed.

Brower & Rowe (2017) performed a study under the title of "where the eyes see, the body goes, understanding strategic orientation on the social performance". The obtained results indicated that the companies with stronger strategies orientation have better social performance in customer orientation.

Mu. et al (2016) in a study under the title of strategy orientation and product development performance, investigated the role of networking capacities and networking compatibilities, and companies capabilities effect for relationship with foreigner partners and manager's ability for new product development project for the network with shareholders of company. Babe can see their the Environmental dynamism as the control variable.

De Lima Rua & Silvo franca (2016) performed a study under the title of the relationship of innovativeness orientation with exports performance. The obtained results indicated that the innovativeness orientation improves the exports performance.

Roso (2010) performed his study under the title of entrepreneurial orientation and export performance. The obtained results indicate that the innovativeness orientation has a positive and significant effect on the export performance.

Theodosius. et al (2012) in his study under the title of investigating 316 Bank branch presented a model that links the strategic orientation with organizational performance through marketing mediator varietal effect. They found that the market disturbance and competition intensity and not having focuses in dimension making have a significant effect on their prioritizing the managerial strategic. In addition, competitor orientation and Innovation orientation help to development of the marketing and in turn the marketing has an effect on the company performance.

Ken. et al (2012) found that the strategic orientation has a significant effect on the product innovation. According to this study a conceptual framework was presented for understanding the relationships between their products innovation and market orientation, competitor orientation and customer orientation and strategic flexibility mediator variable . The basic concept of this model is that the companies considering the customers' needs should have their competitors technologic orientations that has effect on the planning, developing and commercialism the better and new products and obtaining the innovation advantage.

Attin dog and Ziher (2012) started special research for investigation on the family companies performance of Turkey. Six dimensions of this investigation are market, innovation, relationships, customer, training and entrepreneurship. For comparing it with today conditions and scientific power of the this study three dimensions of relationships, customer and training were omitted. The obtained results indicate that innovation orientation leads to obtaining competitive advantage.

Mury (2012) in his studies under the title of organizational innovation and the role of the strategic orientation and environment evalution has this reasoning that there is a direct relationship between environmental evalution and aggressive strategy and analytical strategy that leads to creating innovation in the organization.

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Research Methodology

The present study is an applied research from objective point of view , quantitative from data kind point of view , cross sectional from research performance time point of view. Also the present research is a descriptive- survey from performance strategy point of view. The population of this study include 1990 staff of petrochemical company that 372 members of them were selected by convenience sampling. Data gathering tool of this research was questionnaire of Parkas. et al (2015) entrepreneurial intensity standard questionnaire. Brower & Rowe (2017) organization strategic orientation, Sardana et al (2016) competitiveness capabilities and Oura. et al (2015) export performance questionnaires were used.

In order to evaluation of reliability of the questionnaire the Cronbach's Alpha coefficient and for evaluation of its validity the (Waltz & Bausell) content was used. The rates of their CVI reliability and validity are presented in the following table:

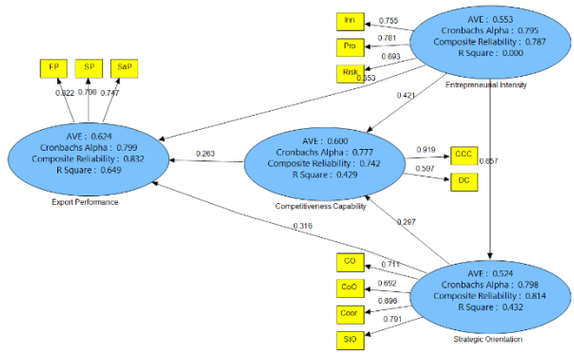
CVI	α	variable	*CVI*	α	variable	*CVI*	α	variable	*CVI*	α	variable
875/0	857/0	questionaire	875/0	831/0	questionaire	875/0	848/0	questionaire	875/0	919/0	questionaire
	884/0	Financial performance		957/0	Delivery capability		856/0	Customer orientation		796/0	proactivenes
	857/0	Strategic performance		898/0	Cost control capability		754/0	Competitor orientation		778/0	Risk taking
	735/0	Acceptable performance					741/0	Cross functional cooperation orientation			
							837/0	Shareholders orientation			

Table 1 The rates of Cronbach's Alpha of the research variables

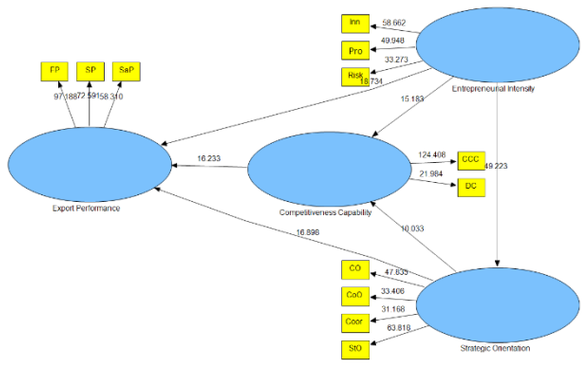
As you can see in the above table the rates of Cronbach's Alpha of all of the components is more than the recommended rate of 0/7, thus the research questionnaires have acceptable reliability. Also their validity rates are in a level more than 79%, therefore it can be said that the research questionnaires have suitable validity.

Research results

In order to estimation of the main hypothesis, PLS smart software was used. The following graph shows the research estimated functional model:



Graph 6 Estimation of the path coefficients for the mains research hypothesis



Graph 7 Estimation of the rates of T-values of the mains research hypothesis

Above figures show the path coefficients and T-values between the research variables path coefficients are Beta standard rates that are showed in the following table.

result	*t-value*	Total effect	Indiret effect	Dirrect effect	communication	Hypothesis
confirm	18/734	0/722	369/0	0/353	entrepreneurial intensity ← export performance	1
confirm	49/223	0/657	---	0/657	entrepreneurial intensity ← strategic orientation	2
confirm	15/183	0/616	195/0	0/421	entrepreneurial intensity ← export performance	3
confirm	10/033	0/297	---	0/297	strategic orientation ← export performance	4
confirm	16/898	0/394	078/0	0/316	strategic orientation ← export performance	5
confirm	16/233	0/263	---	0/263	export performance ← export performance	6

Table 2 Tvalue rates and path coefficients of structural path model for main hypothesis

As you can see the entrepreneurial intensity and strategic orientation have a positive and significant effect on the export performance. Also the variable of entrepreneurial intensity has a significant effect on the strategic orientation. Also it can be seen that the strategic orientation has a significant effect on the competitiveness capabilities but the obtained results indicate that the competitiveness capabilities has a significant effect on the export performance. Accordingly it can be said that any evidence for rejecting the main hypothesis was not observed.

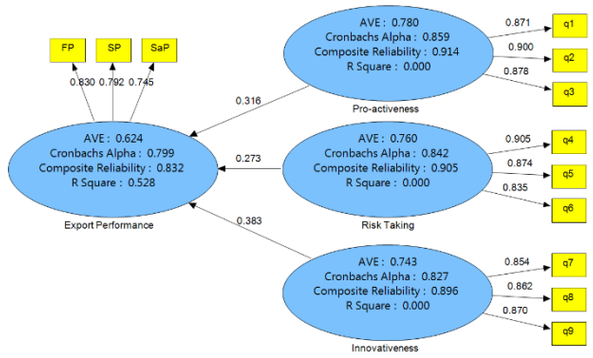
It should be mentioned that, because in the present study the model was estimated with confidence of 95% and error 5% for confirming a hypothesis in confidence level of 95%, the rate of least T-statistics should be equal to 1/96 (Azar et al, 2010; 126). Since for confirming a hypothesis is longer than the supposed rate of 1/96 in confidence level of 95% and error level of 0/05, they are acceptable. In the structural path modeling after investigation and testing the hypotheses, the estimated models quality indices should be estimated. In the structural path modeling there are three categories of goodness indices, the internal models goodness indices and whole model goodness indices. The following table shows these indices:

Model quality indices			Internal model indices		External model indices			variables
GOF	*Red*	*Com*	^2Q	r^2	*AVE*	*ρ*	*α*	
0/53	0/201	0/6	0/248	0/429	0/6	0/741	0/776	Competitiveness capability
	---	0/55	0/581	---	0/55	0/787	0/795	entrepreneurial intensity
	0/174	0/62	0/389	0/649	0/62	0/832	0/798	entrepreneurial intensity
	0/223	0/52	0/206	0/432	0/52	0/814	0/797	strategic orientation

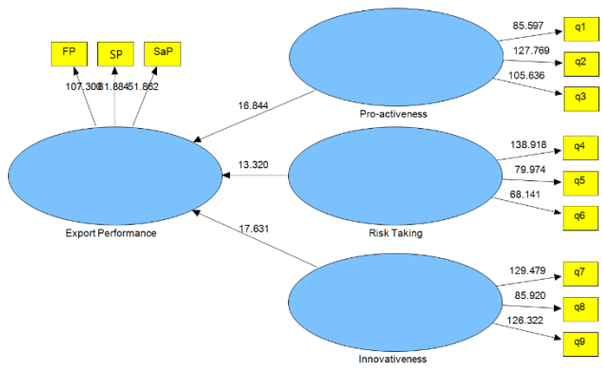
Table 3 Investigation of the internal, external and whole models indices and all of the research hypotheses

As you can see the rates of Cronbach's Alpha and composed reliability is more than the supposed rate of 0/5. Therefore the external models have suitable goodness. r2 index also show that the predictor variables could predict the dependent variables, because the Q2 index is bigger than zero, it can be said that there is a predictor relationship. Also the shared index is more than the supposed rate of 0/5 and the redundancy rate is not zero. This fact indicates the goodness of research model for the main hypotheses. GOF index shows that this model is predictable to 53%.

A- testing the first sub hypothesis:



Graph 8 Estimation of the path coefficients for the first sub hypothesis



Graph 9 Estimation of T-values of the first sub hypothesis

Above figure show path coefficients and T-values between the variables of this research. Path coefficients are defined as Beta standard rates. These rates are showed in the following table.

Result	*T-value*	Total effect	Indiret effect	Dirrect effect	Communication	Hypothesis
Confirm	16/844	0/316	---	0/316	Proactiveness ←export performance	1-1
Confirm	13/320	0/273	---	0/273	Risk taking ← export performance	2-1
Confirm	17/631	0/383	---	0/383	Innovativeness export performance	3-1

Table 4 T-value rates and path coefficients of research structural path model for the first sub hypothesis

As you can see the components of entrepreneurial intensity such as pro-activeness riskfulness and innovation have positive and significant effect on export performance. It should be mentioned that since in the present research the model has been estimated with confidence level of 95% an error level of 5%, thus for confirmation of a hypothesis in confidence level of 95%.

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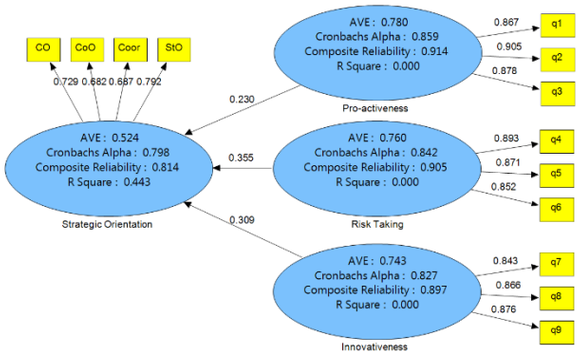
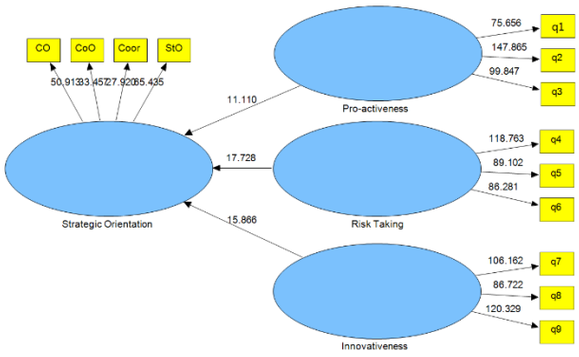
Least rate of t-statistics equals to 1/96 (Azar. et al, 2010: 126), since t-value for the first sub hypothesis bigger than the supposed value of 1/96 in confidence level of 0/95 and error of 0/05 they are acceptable.

B- Testing the second sub hypothesis:



Graph 10 Estimation of path coefficient for the second sub hypothesis



Graph 11 Estimation of t-values of the second sub hypothesis

Above figure shows path coefficients and t-values between the research variables. Path coefficients are defined as Beta standard rates that are showed in the following table.

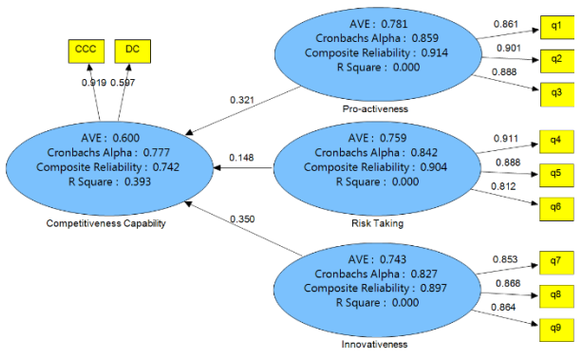
Result	*t-value*	Total effect	Indiret effect	Direct effect	Communication	Hypothesis
confirm	11/110	0/230	---	0/230	strategic orientation ← proactiveness	1-2
confirm	17/728	0/355	---	0/355	Risk taking ← strategic orientation	2-2
confirm	15/866	0/309	---	0/309	innovativeness ← strategic orientation	3-2

Table 5 t-value rates and path coefficients of the research structural path model for the second sub hypothesis

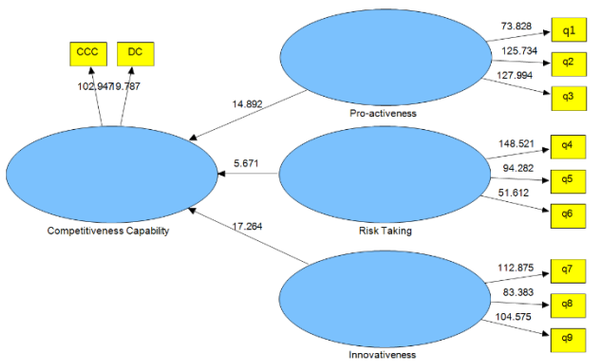
As you can see the entrepreneurial intensity components such as pro activeness, risk fullness and innovation have positive and significant effect on the strategic orientation.

Accordingly it can be said that any evidence of rejection of the second sub hypothesis was not observed. Since, t-value of the second sub hypothesis is bigger than the supposed value of 1/96 in the confidence level of 95% and error of 0/05 it is acceptable.

C- Testing the third sub hypothesis:



Graph 12 Estimation of path coefficients for the third sub hypothesis



Graph 13 Estimation of t-values of the third sub hypothesis of research

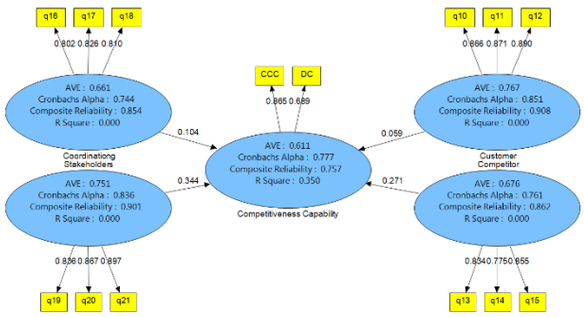
Above figure indicates path coefficients and t-values between the research variables. Path coefficients are defined as Beta standard values that are presented in the following table.

Result	*t-value*	Total effect	Indiret effect	Direct effect	Communication	Hypothesis
confirm	14/882	0/321	---	0/321	competitiveness capabilities ← proactiveness	1-3
confirm	5/671	0/148	---	0/148	Risk taking ← competitiveness capabilities	2-3
confirm	17/264	0/350	---	0/350	innovativeness ← competitiveness capabilities	3-3

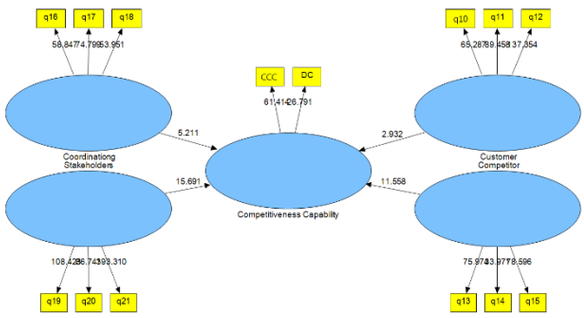
Table 6 t-value rates and path coefficients of the structural path model for the second sub hypothesis

As you can see the entrepreneurial intensity components such as pro activeness, riskfulness and innovation have positive and significant effect on the competitiveness capabilities. Accordingly it can be said that there are not any evidence of rejecting the third sub hypothesis. Since t-value for the third sub hypothesis is bigger than suppose the value of 1/96 in confidence level of 0/95 and error level of 0/05. Thus this is acceptable.

D- Testing the forth sub hypothesis:



Graph 14 Estimation of the path coefficient for the forth sub hypothesis



Graph 15 Estimation of t-values of the forth sub hypothesis

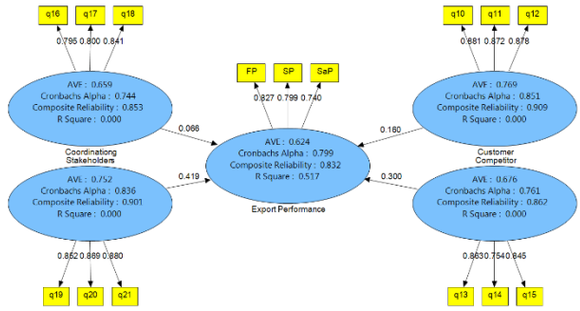
Above figure presents path coefficients and t-value between the research variables. Path coefficients are defined as Beta standard rates that are presented in the following table.

Result	*t-value*	Total effect	Indiret effect	Dirrect effect	communication	Hypothesis
confirm	2/932	0/059	---	0/059	customers trends ← competitiveness capabilities	1-4
confirm	11/558	0/271	---	0/271	competitor trends ← competitiveness capabilities	2-4
confirm	5/211	0/104	---	0/104	cross-functional co-operation trends ← competitiveness capabilities	3-4
confirm	15/691	0/344	---	0/344	shareholders trends ←competitiveness capabilities	4-4

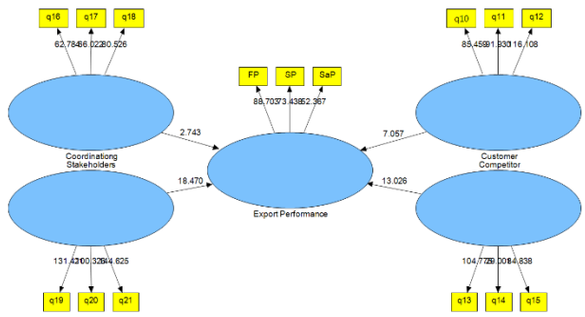
Table 7 t-value and path coefficients of the structural path model for the fourth sub hypothesis

As you can see the strategic orientation components such as customers trends, competitor trends and cross-functional co-operation trends and shareholders trends have positive and significant effect on the competitiveness capabilities. Since, t-value for the forth sub hypothesis is bigger than the supposed value of 1/96 in the confidence level of 95% and error level of 0/05 it is acceptable.

H- Testing the fifth sub hypothesis:



Graph 16 Estimation of path coefficient for the fifth sub hypothesis



Graph 17 Estimation of t-values of the fifth sub hypotheses of research

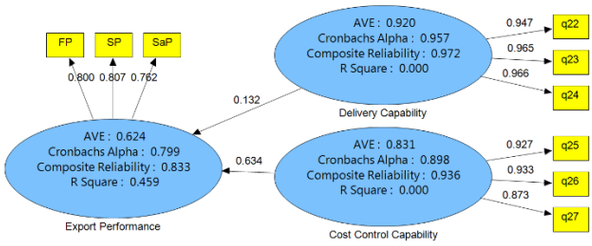
Above figure presents the path coefficients and t-values between the researcher variables. The path coefficients are defined as Beta standard rates, that are presented in the following table.

Result	*t-value*	Total effect	Indiret effect	Dirrect effect	Communication	Hypothesis
confirm	7/057	0/160	---	0/160	customers trends ←export performance	1-5
confirm	13/026	0/300	---	0/300	competitor trends ←export performance	2-5
confirm	2/743	0/066	---	0/066	cross-functional co-operation trends ←export performance	3-5
confirm	18/470	0/419	---	0/419	shareholders trends ← export performance	4-5

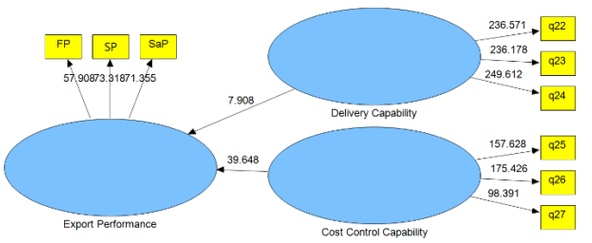
Table 8 t-value and path coefficient of structural path model for the fifth sub hypothesis

As you can see the competitiveness tap abilities such as customers trends, cross-functional cooperation trends and significant effect on the export performance. Accordingly any evidence was not observed for rejecting the fifth. Sub hypothesis is bigger than the supposed of 1/96 in the confidence level of 95% and error level of 5% it can be acceptable.

I- Testing the sixth sub hypothesis:



Graph 18 Estimation of the path coefficients for the sixth sub hypothesis



Graph 19 t-values of the sixth sub hypothesis

Above figure presents path coefficients and t-values between the research variables. Path coefficients are defined as standard rates of Beta that are presented in the following table.

Result	*t-value*	Total effect	Indiret effect	Dirrect effect	communication	Hypothesis
confirm	7/908	0/132	---	0/132	delivery capability ← export performance	1-6
confirm	39/648	0/634	---	0/634	cost control ← export performance	2-6

Table 9 t-value and path coefficients of the structural path model for the sixth sub hypothesis

As you can see the components of the competitiveness capabilities such as delivery capability and the cost control petrochemical are positive and significant effect on the export performance. Accordingly it can be said that there is not any evidence for rejecting the six hypothesis. Since t-value for the supposed value of 1/96 in confidence level of 0/95 and error rate of 0/05 it is acceptable.

Conclusions and Recommendations

The objective of the present study was investigation of the effect of entrepreneurial intensity and strategic orientation on creating competitiveness capabilities and export performance of Ilam petrochemical company. The obtained results indicate that there entrepreneurial intensity has a significant effect on export performance and the entrepreneurial intensity has a significant effect on the strategic orientation and strategic orientation has a significant effect on the competitiveness capabilities in Ilam petrochemical company.

Considering the obtained results we suggest the attitude of entrepreneurial be improved so that the entrepreneurial intensity be increased. On the other hand the managers should create positive dynamism and motivation to achieve their organization proposes and and should create suitable field for their employees so that they can feel the entrepreneurship process in order to their attitude to entrepreneurship be improved. Also it is suggested that the managers of Ilam petrochemical company present motivation to staff that are employed for entrepreneurship purposes and want to change their conditions and other employees conditions through entrepreneurship process.

Some of these measures include low-interest loans, motivation of entrepreneur individuals, assignment capital to establish entrepreneurial companies and institutes also top managers of the organization can in their macro policy making for the company can take efforts in creating culture of entrepreneurship. Integration of entrepreneurship culture with organization values and culture creating in the entrepreneurial fields with objective of adjusting the entrepreneurship with staff value system and also encouraging of the staff to entrepreneurship from people who are important for them such as friends, parents and so on have a significant role in entrepreneurial attitude of the staff.

Thus the managers should remove the weaknesses of relationship with customers and strength the customer orientation. Also investigation of the competitors and their weaknesses and strength in strategic orientation effectiveness on the competitiveness capabilities is important.

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The place of the competitors, the changes that they create in customers and their products should be examined constantly, creating a long-term and strategic approach by the managers and also creating some groups for gathering and distributing of data of consumers' needs and competitors measures in a disturbed and competitive environment can help to improving the companies export performance.

Therefore, the organization's managers should provide an environment so that risk taking be popularized. Creating riskfulness mood among the managers of all of the sections will lead to encouraging them toward innovation and they always will try to create new opportunities. Do managers in brainstorm meetings in the company will try to attract innovative ideas in the new Markets. Also with creating customer oriented mood and respecting to clients in a strategical method in marketing area in strategic orientation can improve and promote the export performance.

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The Effect of Developing E-Marketing and Efficiency Capabilities on the Improvement of B2B Marketing Performance

El efecto de desarrollar capacidades de E-Marketing y eficiencia en la mejora del rendimiento de marketing B2B

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Abstract

This study aimed to investigate the effect of developing e-marketing capabilities and efficiency on the improvement of B2B marketing performance. The present research was an applied and descriptive survey. The statistical population of the study encompassed the employees operating in Malayer Furniture Brand (N=156) and the sample size was 113. The data collection tool was a questionnaire. To assess the validity, the content validity and confirmatory factor analysis were adopted and the results indicated the appropriateness of the factor analysis in identifying the structure of the model. Cronbach's alpha was used to measure reliability and the results suggested that the value of each research questionnaire component was greater than 0.7. The data were analyzed using structural equation modeling by Smart PLS software. The results showed that the development of e-marketing capabilities had a positive and significant effect on improving the B2B performance of the Malayer Furniture Brand. The development of efficiency capabilities also positively and significantly improved the B2B performance of the Malayer Furniture Brand.

Development of e-marketing capabilities, B2B performance improvement, Efficiency capabilities

Resumen

Este estudio tuvo como objetivo investigar el efecto del desarrollo de las capacidades y la eficiencia del marketing electrónico en la mejora del rendimiento del marketing B2B. La presente investigación fue una encuesta aplicada y descriptiva. La población estadística del estudio abarcó a los empleados que operan en la marca de muebles Malayer (N = 156) y el tamaño de la muestra fue de 113. La herramienta de recolección de datos fue un cuestionario. Para evaluar la validez, se adoptaron la validez del contenido y el análisis factorial confirmatorio y los resultados indicaron la idoneidad del análisis factorial para identificar la estructura del modelo. Se usó el alfa de Cronbach para medir la confiabilidad y los resultados sugirieron que el valor de cada componente del cuestionario de investigación fue mayor que 0.7. Los datos se analizaron utilizando un modelo de ecuación estructural mediante el software Smart PLS. Los resultados mostraron que el desarrollo de las capacidades de marketing electrónico tuvo un efecto positivo y significativo en la mejora del rendimiento B2B de la marca de muebles Malayer. El desarrollo de capacidades de eficiencia también mejoró de manera positiva y significativa el rendimiento B2B de la marca Malayer Furniture.

Desarrollo de capacidades de marketing electrónico, Mejora del rendimiento B2B, Capacidades de eficiencia

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Introduction

The e-marketing capabilities are a process beyond the traditional marketing, which is performed through Internet technology. This method establishes a mutual relationship between the company and its customers. E-commerce pursues the same goals as the traditional marketing's, and the only difference is that the e-commerce uses new technology and techniques to innovate and improve performance. E-marketing is considered as a reciprocal relationship and, in addition to providing the possibility of expanding massive information, it has also provided the grounds to obtain information from the market and other competitors (Vorhies et al., 2009). Efficiency refers to spending minimum energy for maximum work. The managers are directly in charge of improving the efficiency that would result in increasing productivity and, consequently, reaching the objectives of the company in terms of marketing.

The term efficiency is limited and is used to refer to the intra-organizational operations. Business to Business (B2B) means trading performed between a business and a business or a merchant and a merchant. This type of marketing refers to business activities between merchants and wholesalers or major retailers and retailers. The B2B system is the first method of doing electronic transactions and still provides the maximum profit. In B2B business, the merchants also have to identify the intermediaries in addition to their customers. One of the first major companies was CISCO Inc., which developed their e-commerce website in July (1996), and then major computer companies such as Microsoft and IBM offered their commercial software that provided the possibility of shopping via the Internet (Pierre, 2001).

Significance and Necessity of the Study

Marketing capabilities are integrated and coherent processes designed to apply collective skills, knowledge and resources of the company, detect market needs, and improve the value of the company's products and services, through which and the company can adapt itself to the variable conditions of the market and use market opportunities to deal with competitive threats.

Marketing capabilities represent the specific capabilities of a company in identifying target markets, strategies, and mixes of developing markets, causing the maintenance of relationships with loyal customers. Previous studies show a positive relationship between marketing capabilities and company performance (Wu, 2013). Competition has gotten more intense in e-marketing and long-term relations need to be emphasized. The e-commerce wave has affected almost all companies and, in particular, companies operating in the furniture industry as such they are obliged to enter the e-commerce industry.

The strategic goals of e-commerce, as a traffic light, facilitate all efforts and measures to deploy e-commerce and gain competitive advantage in the electronic world (Samiee, 2008). It seems to be a general agreement that the companies, if they want to succeed in their business and marketing environments, should also improve their marketing performance and efficiency. Appropriate employment of human resources to improve the marketing efficiency as the most valuable and foremost wealth in each company has become an issue of great importance (Anastasia et al., 2015).

Hence the efficiency of human resource marketing is one of the key pillars in any institution or company. The buyer's decision-making process is no longer a linear process so that the buyer does not first search to select a company and ultimately make a purchase from the selected company.

On the other hand, it is a fluid process and a cycle through which the buyer constantly surfs various channels (websites, social networks, specialized blogs, etc.) to obtain information about his concerned commodity, investigates different companies and brands and constantly evaluates the findings obtained about his concerned brands (Turban et al., 2006).

Theoretical Background of the Study

Marketing capabilities

In recent studies, marketing capability is defined as the process of applying the organizational knowledge, skills, and resources to create added value for goods and services, meet competitive needs, and respond to market-related needs.

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The importance of learning processes in the development of marketing capabilities has been emphasized, especially when employees can quickly solve their marketing problems using their knowledge and skills. In order to illustrate the marketing capabilities of the company, some specific marketing processes which can be consistent with the company's competitive strategy, are outlined.

Efficiency

The term efficiency is more limited and is used to refer to the operations performed within an organization. An organization's efficiency refers to the amount of resources consumed to produce a product and is measured based on the consumption to product ratio (Mohan & Ray, 2004). If an organization can afford to spend less resources in comparison to other organizations to reach its specified goal, its efficiency is greater. In other words, efficiency refers to the minimum time or energy spent on the maximum work. Or, it is in fact the proportion of the performed work to the work to be done (Mohan & Ray, 2004). Various factors, including training, job turnover, job enrichment, and employees' empowerment, enhance the efficiency in an organization (Weill, 2004).

B2B Marketing

Business to Business marketing, commonly known as B2B marketing, includes selling products or services to another company. The B2B marketing techniques rely on the basic principles of consumer marketing; however, they are conducted uniquely (Zhang et al., 2012). For the B2B buyers, only the price and potential profit of the product is of importance. In B2B marketing, the businessmen have to recognize customers and intermediaries. Looking for new ways to promote relationships through social media is currently a hot bed of debates throughout the world and in B2B marketing (Sadi & Noordin, 2011).

Social networks have created a new channel for conversations and communications among different businesses. Professional and opportunistic B2B companies have found innovative techniques to exploit social media. In this model, retailing does not matter, and buyers are looking for wholesales with high profit rates since retailing is not risk free and buyers are not eager to buy products from the Internet (Sadi & Noordin, 2011).

Cisco Co. was a leading company in initiating e-commerce website in 1996. Within a short period, major companies such as Microsoft and IBM then came into the market and marketed their commercial software. Today, B2B e-commerce has achieved the highest progress in e-commerce, and it is expected that this type of business grows faster in the near future (Zhang et al., 2012). In order to advance in this business, the observance of following points is of essence: hosting information webinars, setting up the industry booth at popular and well-known business fairs, sending an email newsletter as an industry expert, and informing about the status of the company, having an active and interactive participation in social media, attending the industry network events, and establishing favored relations with buyers (Maswera et al., 2008).

Empirical Background of the Study

– Amiri et al. (2016) investigated the factors affecting the adoption of e-commerce in Iran's agricultural sector. The results of their study indicated that attitudes played a mediating role in the relationship between perceived usefulness and security, operational, financial, and time risks with the acceptance of e-commerce.

– Saeidi Garghani and Naser Asadi (2016) examined the impact of marketing on the effectiveness of implementing e-commerce strategy and found that marketing had a positive and significant effect on the effectiveness of e-commerce strategy implementation.

– Asghari and Heidari (2015) conducted a study entitled "Developing a model based on the factors affecting customer satisfaction and trust in the e-commerce sector." The results of this study provided an insight for those who work in the field of e-commerce, because they can use it to design and implement e-commerce websites with a group shopping income model.

– Samadi Pour et al. (2015) carried out a research on the impact of satisfaction and website usability on the development of efficiency and positive oral statements in electronic services. The results showed that the ability to use the website had a direct impact on customer satisfaction in e-business, and that the customer satisfaction leads to efficiency and the efficiency provokes further positive oral statements in e-business.

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– Zaman Pour and Sattari Ardebili (2015) researched the B2B marketing in small and medium-sized enterprises (Case study: Moghan Agro-Industry Company). The results of the study revealed a positive and significant relationship between market orientation, branding capability, and innovation capacity with B2B marketing performance.

– Rahimi (2015) conducted a research on the relationships among technological opportunities, with an emphasis on B2B marketing and performance. The results of this study showed that the technological opportunities had a positive impact on key efficiency measures such as sales, profit, and market value. The marketing mechanism through which the relationship between technology, efficiency, and performance is determined is of great importance.

– Montazeri et al. (2014) conducted a study entitled "Factors affecting the intent of shopping in e-commerce among computer website customers". The research findings indicated that the virtual companies can increase the customers' willingness for online shopping through reducing perceived risks and enhancing perceived benefits and trust by creating a safe environment and ensuring successful shopping.

– Ranjbargi and Eskandarian (2014) investigated the factors influencing the development of e-commerce application in textile and apparel companies of Isfahan province. The results suggested that the two main factors, including organizational structure (prospective and strategic management, firm size, flexibility, performance and expected efficiency) and supporting and infrastructure factors have a significant effect on the use of e-commerce tools in enterprises operating in the textile industry sector in Isfahan province.

– Monavarian et al. (2014) investigated the factors influencing the development of e-commerce (Case Study: small and medium-sized enterprises in Tehran). According to the findings, the external environment factors are divided into the macro environment factors and the industry environment factors, each of which separately affects the acceptance and development stages of e-commerce in small and medium-sized enterprises.

– Elahi et al. (2010) conducted a research study on the relationship between e-commerce and customer behavior and concluded that trust, loyalty and satisfaction interactively enhance e-shopping; however, the extent and the procedure through which they affect and interact with each other in different countries varies.

– Hosseini et al. (2008) investigated the impact of e-marketing on the export performance of the distinguished exporters in the industry sector during 2000-2005 (with an emphasis on the Internet). The results revealed a positive relationship between the use of Internet in marketing activities and export performance of the concerned companies.

– Iddris and Ibrahim (2015) investigated the relationship between e-marketing and marketing performance. Their findings showed that, despite the use of electronic marketing by companies, this tool had a positive impact on their marketing performance.

– Sok et al. (2013) conducted a research on the relationship between the e-marketing capabilities, innovation, and learning with the performance of small and medium-sized enterprises. The results revealed a positive and significant relationship between the e-marketing capabilities, innovation, and learning with the performance of small and medium-sized enterprises.

– Theodosiou et al. (2012) studied the strategic orientation, marketing capabilities, and company performance, an empirical study on the concept of frontline managers in service organizations. According to this study, competition and innovation orientations lead to the development of marketing capabilities, there is a positive and significant relationship between marketing capability and performance, and marketing capability has an impact on performance.

– Mariadoss et al. (2011) conducted a study entitled "Marketing capability and innovation-based strategies for environmental sustainability (Case Study: B2B Companies). The results revealed that innovation-based strategies and marketing capabilities affect performance and competitive advantage.

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– Merrilees' et al. (2011) study entitled "Marketing capabilities: Antecedents and implications for B2B SME performance" showed that marketing and innovation capabilities were the most important factors affecting the SME performance.

– Tsiotsou and Vlachopoulou (2011) conducted a study entitled "Understanding the effects of market orientation and e-marketing on service performance." They found that market orientation had a positive and significant effect on efficiency through a dual mechanism (directly and indirectly) with regard to the mediating role of e-commerce, which improves the impact of market orientation on efficiency.

– In his research entitled "The effect of culture on creation marketing intelligence by internet and creation value in B2B organization" with regard to the increasing value of Internet in companies, Karayanni (2006) explored the techniques to achieve marketing intelligence via the Internet and investigated the relationships between intelligence obtained via the Internet and its value creation with variables such as customer relation, innovation, productivity and efficiency, and the strength of such relationships. The results showed that the Internet as a virtual business network has infiltrated the lives of organizations and has provided a large number of many opportunities for organizations. It was also determined that the value or timing of this category and the organizational culture in this category had a significant impact as well.

– Lin (2003) criticized the customer satisfaction in e-commerce. The result of his study showed that service quality in e-commerce is a way of determining the competitive advantage through customer satisfaction. In addition, customer relations in the e-commerce environment is of great importance in maintaining customer satisfaction.

Conceptual Model of the Study

In this study, Gray et al. (2017) and Supran and Sharma' (2014) e-marketing capabilities model and Gray's et al. (2017) B2B performance model were used. The researcher adapted the abovementioned models and developed the conceptual model of the present study as follows, according to which the research hypotheses were formed:

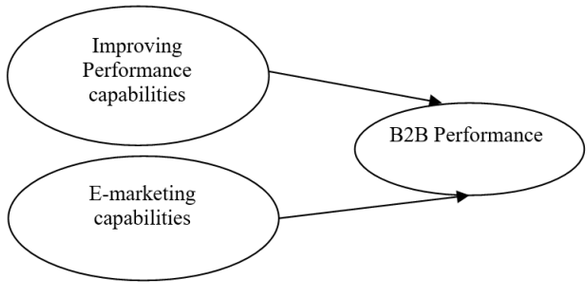

Figure 1 Conceptual Model of the Study

Research Hypotheses

1. The development of e-marketing capabilities has a positive and significant effect on improving the B2B performance of Malayer Furniture Brand.

2. The development of efficiency capabilities has a positive and significant effect on improving the B2B performance of Malayer Furniture Brand.

Research Methodology

The present research was applied in terms of the research objectives and quantitative with regard to the data type as the questionnaire and quantification of qualitative concepts and values were employed in this study. Regarding the procedure of the study, it was cross-sectional since it was performed at a point in time rather than within an interval. The statistical population of the study encompassed the staff of the Malayer Furniture Brand (N=156). The study sample size was estimated to be 113 according to Morgan's Table. Simple random sampling was also used in this study.

Instruments of the Study

Questionnaires were used as the research instruments to collect data in this study. Three questionnaires were used as described below.

A. The Standardized Marketing Capability Questionnaire contains 14 questions and seven components, including: 1) providing online product catalogs; 2) upgrading products online; 3) online orders; 4) online payment; 5) salesperson online access; 6) Electronic shopping; and 7) participation in e-market

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B. Standardized Scale of Development of Efficiency Capability. This standardized questionnaire encompasses four components and eight items: 1) equality; 2) alignment; 3) work speed; and 4) using facilities.

C. Standardized B2B Performance Inventory: This standardized questionnaire contains four components and eight questions as follows: 1) Information multiplicity; 2) After-sales support; 3) Effectiveness of market research; and 4) Online communication.

Confirmatory factor analysis and goodness of fit indices were used to determine their validity and Cronbach's alpha was also employed to determine its reliability. The values of factor analysis and Cronbach's alpha coefficients are presented in Table 1.

Variable	Parameter	No.	Item	Path coefficient	t-value	Cronbach's alpha	KMO	Bartlet
E-marketing capabilities	Providing product catalog	1	a1	0.91	17.79	0.912	0.800	0.00
			a2	0.93	20.32			
	Upgrading products online	2	a3	0.72	14.48			
			a4	0..90	18.70			
	online order	3	a5	0.86	17.85			
			a6	0.91	18.03			
	online payment	4	a7	0.91	17.79			
			a8	0.93	20.32			
	salesperson's online access	5	a10	0.91	17.70			
			a11	0.93	20.32			
	E-shopping	6	a12	0.90	18.70			
			a13	0.86	17.85			
	Participation in e-market	7	a14	0.72	14.48			
			a15	0.90	18.70			
Improving Performance capabilities	Equality	8	b1	0.92	10.92	0.900		
			b2	0.96	20.15			
	alignment	9	b3	0.87	17.26			
			b4	0.90	18.42			
	Work speed	10	b5	0.99	21.18			
			b6	0.87	16.92			
	Using facilities	11	b7	0.70	11.79			
			b8	0.87	17.26			
B2B performance	Information multiplicity	12	c1	0.55	8.79	0.866		
			c2	0.68	14.12			
	After-sales online support	13	C3	0.74	14.45			
			C4	0.87	16.60			
	Effectiveness of market research	14	C5	0.55	8.79			
			C6	0.68	14.12			
	Online communication	15	C7	0.55	8.79			
			C8	0.68	14.12			
E-marketing capabilities		X2	df	x^2/df	RMSEA	GFI	AGFI	NFI
		47.40	56	0.846	0.00	0.94	0.91	0.98
Improving Performance capabilities		X2	df	x^2/df	RMSEA	GFI	AGFI	NFI
		22.91	14	1.63	0.07	0.95	0.93	0.99
B2B performance		X2	df	x^2/df	RMSEA	GFI	AGFI	NFI
		52.93	24	2.20	0.09	0.89	0.87	0.89

Table 1 Validity and reliability of research questionnaire

As the above Table indicates, the values of Cronbach's alpha coefficient for all components are >0.7; hence, the research questionnaires have an acceptable reliability. The value of KMO index for the three questionnaires was >0.6 and the significance level of Bartlett's statistics was <0.05; therefore, the research sample was sufficient to implement confirmatory factor analysis. The values of confirmatory factor analysis at the level of standard coefficients for each questionnaire were at an appropriate level, and the T-values of the factor analysis for the three questionnaires were out of +1.96 to -1.96 range and showed an appropriate level. Furthermore, the validity of the questionnaire revealed its appropriate content validity; therefore, the validity of the questionnaire can be considered as achieved. To sum up, the research tools were valid and reliable. Moreover, the goodness of fit indices in confirmatory factor analysis indicated that the questionnaires were well-fitted.

Findings of the Study

Before analyzing the data, their distribution status was evaluated using the Kolmogorov–Smirnov test and it was found that the distribution of the variables is not normal. Thus partial least squares method, which can be run using Smart PLS software, was used. The image output of the hypotheses estimation for path coefficients and significant coefficients is presented in the following figures.

Structural Path Coefficients of Research Hypotheses

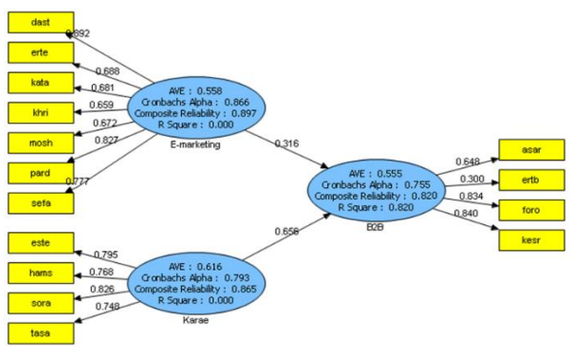

Figure 2 Estimated model of main research hypotheses in path coefficients

The coefficients in this figure are the same standardized regression coefficients, or in other words, the same beta values in the regression model, indicating the intensity of the effect of the independent variable on the dependent variable and the mediating variable. To ensure the meaningfulness of the above coefficients, t-values need to be considered. Figure 3 shows these values as a graph:

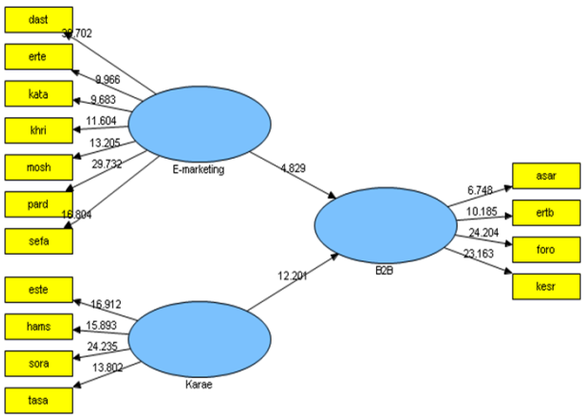

Figure 3 Meaningfulness coefficients of the estimated model for the main research hypotheses

Figure 3 presents the t-values for the estimation of the standard coefficients.

	Research Hypotheses	Path from	to	Direct impact	Indirect impact	Total impact	t-value	Result
Main Hypotheses	H1	E-marketing capabilities	Performance improvement of B2B	0.316	---	0.316	4.829	Confirmed
	H2	Improving Performance capabilities	Performance improvement of B2B	0.656	---	0.656	12.201	Confirmed
	1	Providing product catalog	Performance improvement of B2B	0.533	---	0.533	10.587	Confirmed
	2	Upgrading products online	Performance improvement of B2B	0.505	---	0.505	10.057	Confirmed
	3	online order	Performance improvement of B2B	0.561	---	0.561	11.544	Confirmed
	4	online payment	Performance improvement of B2B	0.508	---	0.508	10.070	Confirmed
	5	salesperson's online access	Performance improvement of B2B	0.465	---	0.465	13.957	Confirmed
	6	E-shopping	Performance improvement of B2B	0.565	---	0.565	11.720	Confirmed
	7	Participation in e-market	Performance improvement of B2B	0.696	---	0.696	12.901	Confirmed
	1	Equality	Performance improvement of B2B	0.394	---	0.394	6.596	Confirmed
	2	alignment	Performance improvement of B2B	0.402	---	0.402	5.033	Confirmed
	3	Work speed	Performance improvement of B2B	0.340	---	0.340	5.455	Confirmed
	4	Using facilities	Performance improvement of B2B	0.370	---	0.370	5.897	Confirmed

Table 2 T-values and path coefficients of research hypotheses

Variables	External Model Indices			Internal Model Indices		Model Quality Indices		
	α	ρ	AVE	r2	Q2	Com	Red	GOF
E-marketing	0.866	0.897	0.558	---	0.510	0.626	---	0.724
Performance Capabilities	0.793	0.865	0.616	---	0.518	0.616	---	
B2B performance	0.755	0.820	0.555	0.820	0.524	0.678	0.364	

Table 3 Evaluation of internal and external indices of the model and the main research hypotheses

Since Cronbach's alpha and composite reliability values were >0.7, the model was assumed to be reliable. Moreover, the AVE index value was also >0.5; thus, the external model indices were in an acceptable condition. An evaluation of internal model indices also showed that the model was in an appropriate condition since the coefficients of determination were high and the Q^2 index of Aston-Gaiser is not zero. The overall model indices were appropriate, and the GOF index confirmed that the model had a predictability of 0.724 for the research hypotheses.

Discussion and Conclusion

The analysis results of the first main hypothesis with regard to the direct effect (0.316) indicated that the effect of the development of electronic marketing capabilities on improving the B2B performance of the Malayer Furniture Brand was positive and the null hypothesis was rejected, and the H1 is confirmed. The t-value for the variables 'developing electronic marketing capabilities' and 'improvement of B2B performance' was 4.829 at a confidence level of 99% and an error rate of 1%, which was >2.56, indicating a significant relationship between these two variables in the Malayer Furniture Brand at a confidence level of 99%.

Accordingly, given that the t-value of the first main hypothesis (4.829) is greater than 2.56, the first hypothesis of the study is confirmed. In other words, the development of electronic marketing capabilities could justify 316% of the variations in improving the B2B performance of the Malayer Furniture Brand. All in all, the first main research hypothesis was confirmed. In other words, the development of electronic marketing capabilities has a significant effect on improving the B2B performance of the Malayer Furniture Brand.

This finding is consistent with the findings of some other researchers (e.g., Amiri et al., 2016; Saeidi Garghani & Naser Asadi, 2016; Mohtaram et al., 2015; Asgari & Heidari, 2015; Zaman Pour and Satar Ardebili, 2015; Rahimi, 2015; Montazeri et al., 2014; Ranjbargi & Eskandarian, 2014; Monavarian et al. , 2014; Elahi et al., 2010; Hosseini et al., 2008; Paraskoei et al., 2017; Kayabasi & Mtetwa, 2016; Sok et al., 2013; Theodosiou et al., 2012; Mariadoss et al., 2011; and Merrilees et al., 2011).

The analysis results of the second main hypothesis with regard to the direct effect (0.656) showed that the effect of the development of efficiency capabilities on improving the B2B performance of the Malayer Furniture Brand was positive. The t-value for the variables ‘development of efficiency capabilities’ and ‘improvement of B2B performance’ was 12.201 at a confidence level of 99% and an error rate of 1%, which was >2.56, indicating a significant relationship between these two variables in the Malayer Furniture Brand at a confidence level of 99%. Accordingly, given that the t-value of the second main hypothesis (12.201) is greater than 2.56, the second hypothesis of the study is confirmed.

In other words, the development of efficiency capabilities could justify 656% of the variations in improving the B2B performance of the Malayer Furniture Brand. Hence the second main research hypothesis was confirmed. In other words, the development of efficiency capabilities has a significant effect on improving the B2B performance of the Malayer Furniture Brand. No evidence rejected the second hypothesis.

This finding is consistent with the findings of some other researchers (e.g., Amiri et al., 2016; Saeidi Garghani & Naser Asadi, 2016; Mohtaram et al., 2015; Asgari & Heidari, 2015; Samadi Pour et al., 2015; Rahimi, 2015; Montazeri et al., 2014; Ranjbargi & Eskandarian, 2014; Monavarian et al., 2014; Elahi et al., 2010; Hosseini et al., 2008; Lockman, 2016; Kayabasi & Mtetwa, 2016; Merrilees et al., 2011; Tsiotsou & Vlachopoulou, 2011; Karayanni, 2006; Lin, 2003).

Suggestions According to Hypothesis Testing

1. According to the results for the first hypothesis:

– The authorities of the studied population are recommended to make efforts to use and apply integrated and coherent processes in order to apply collective skills, knowledge, and resources of the company, identify market needs, and improve the value of their company's goods and services.

– The authorities are also suggested to uniquely rely on other companies or other organizations according to the basic principles of consumer marketing in order to enhance the performance in the product sales or services.

– Regarding the product catalogue index, it is suggested to use an electronic catalogue such as multimedia CDs on a compact disc (CD) with the ability to write a special design, along with the name of the company directly inserted on the CD to be presented to customers inside a printed or fancy package.

– Regarding the online upgrade index, online communications are suggested to be employed in order to enhance the shopping intention, increase values, or enhance incentives for consumers, wholesalers, retailers, or other company consumers to promote sales promptly.

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- Regarding the online order index, the company is recommended to place the list and specifications of its goods on the website so that the buyer, after visiting the website and studying the specifications of the concerned goods can proceed to register the order and purchase the goods from the company.

- With regard to the online payment index, the company is recommended to develop and establish a software feature of an online store for the online payments by customers using electronic payment instruments and electronic payment cards (only available on the Internet).

- Regarding the online access index, the salesperson is advised to creating a space on the Internet for its customers to have access to online services whenever they need recommendations or advice to do their online shopping, to ask questions, and to raise their problems.

- Considering the e-shopping index, it is suggested to provide a platform for customers to have e-shopping through online stores so that customers can have shopping.

- Regarding the participation in the e-market, it is suggested to provide the necessary grounds through using information and communication technology to expand and deepen partnerships by empowering citizens to further communicate with each other and with their customers.

2. According to the results for the second hypothesis:

- The authorities of the studies population are recommended to take steps to improve efficiency capabilities and enhance B2B performance through holding training courses on the principles and foundations of productivity and efficiency. Also, the managers and authorities should consider other factors such as social value of the job, work conditions, and employment products at different times in order to increase the performance.

- Concerning the equality index, it is suggested that the changes in structures and flexibility are considered to improve efficiency and enhance the performance of the employees. Creating trust between managers and the importance of training employees are the factors facilitating efficiency and improving performance. The authorities should pay special attention to this point.

- Regarding the alignment index: (1) All employees should have the same goal. (2) All staff should be aware of how they collaborate in advancing the core strategies to achieve organizational goals. (3) Works, processes, and activities are carried out to achieve the goals. And (4.) Priorities should be simple and transparent.

- Regarding the work speed index, it is recommended to consider the speed of the work and the timely completion of work and daily activities. The faster they can accomplish their tasks during a working day, the more successful they will be. The company should also pay special attention to time management in daily tasks and activities.

- Considering the use of facilities, it is recommended to optimally use all the equipment and facilities available in the company to maximize their performance.

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Financial Capacities and export success: Evidence from Small and Medium-Sized Estonian Firms

Capacidades financieras y éxito de las exportaciones: Evidencia de Pequeñas y Medianas Empresas Estonias

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Abstract

The main objective of this paper is to investigate the relationships between exporting success and variables that affect the economic and financial structure. For a set of 242 Small and Medium-Sized Estonian firms, we will analyze how financial variables contribute to the achievement of higher export success rates. We select the relevant variables with Principal Component Analysis and use an Artificial Intelligence method (PART algorithm) to study the role of them. The results show that the more relevant financial variables to analyze the success in international market are the ones related to the liquidity of the assets, the level of interest payments, sales growth, the ones related to firms' own funds and the age of the company. In addition, although some financial factors are more significant than others, none of them is clearly a key factor for all companies and situations, that is, no single factor can lead to success or failure.

Financial capacities, Export success, Artificial intelligence, PART algorithm, Principal component analysis

Resumen

El objetivo principal de este documento es investigar las relaciones entre el éxito de la exportación y las variables que afectan la estructura económica y financiera. Para un conjunto de 242 empresas estonias pequeñas y medianas, analizaremos cómo las variables financieras contribuyen al logro de mayores tasas de éxito en las exportaciones. Seleccionamos las variables relevantes con el Análisis de componentes principales y utilizamos un método de inteligencia artificial (algoritmo PART) para estudiar el papel de las mismas. Los resultados muestran que las variables financieras más relevantes para analizar el éxito en el mercado internacional son las relacionadas con la liquidez de los activos, el nivel de pagos de intereses, el crecimiento de las ventas, las relacionadas con los fondos propios de las empresas y la edad de la empresa. . Además, aunque algunos factores financieros son más significativos que otros, ninguno de ellos es claramente un factor clave para todas las empresas y situaciones, es decir, ningún factor puede llevar al éxito o al fracaso.

Capacidades financieras, Éxito de exportación, Inteligencia artificial, algoritmo PART, Análisis de componentes principals

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Introduction

This work has a threefold objective. The first is to analyze the direct relationship that may exist between economic-financial variables and the investment decisions implicit in the continuous presence in international markets. The relationship between investment decisions and financial variables has been extensively studied, using the concept of financial restriction as a moderating or an intermediate variable.

Economic-financial variables ⟹ Financial restriction ⟹ Investment decisions

However, given the proposed methodology, the variables used in the model will be those that, according to the most recent and relevant literature, may be the cause of the appearance of financial restrictions, which would be an obstacle to making investments in general and, in particular, those necessary to carry out an international activity.

It is evident that the companies that present greater restrictions will have more difficulty to invest, either in national or international markets. However, given the little consensus that exists in how these restrictions are generated and therefore which variables influence their appearance, this paper tries to discover patterns of behavior directly of the financial economic variables without using the financial restrictions as a moderating variable.

Firms' export performance depends on many different factors (Harris and Li, 2011). Overall, exporter performance reflects the result from a specific firm's exporting behavior under specific environmental circumstances (Landa-Torres, et al. 2012). It is possible to identify three dimensions of the exporting behaviour: economic, financial, and strategic (Katsikeas et al. 2000).

In general, firms' heterogeneous resources are considered as an explicative factor in several models of international trade. In particular, financial resources play a critical role not only for firms' ordinary activities, but also for their growth and international expansion strategies (Chaney, 2013; Manova, 2012 and Melitz, 2003).

The literature has paid attention especially to the relationship between productivity and international trade, and although productivity is a key factor, this study also considers other critical financial variables: in specific, the need for financial resources that shows firms' financial health and constraints they may face (Forte and Moreira, 2018). Since the study of Greenaway et al. (2007), a growing number of investigations that study the relationship between financial variables and export activities have appeared.

These studies are based on the premise that financial health and financial capacities constitute a decisive role for the survival of firms in general and, especially, exporters. Several reasons could explain the necessity of financial resources for exporters (Chugan and Singh, 2016). Consequently, the factors that can make achieving their international strategy easier, or on the contrary, that can deter it, will be decisive in their international success because they can contribute to competing efficiently in those markets and to getting involved there in a stable manner.

Nevertheless, only a few studies tackle this question by considering that international firms are dissimilar and, consequently, they have a different exporting status that requires a detailed analysis (Gorg and Spaliara, 2012). Therefore, this research tries to show how financial variables, and consequently, financial health (Gorg and Spaliara, 2012), productivity and profitability affect firms' financial decisions, business survival and export success (Kiendrebeogo and Minea, 2016).

The main objective of this paper is to investigate the relationships between exporting success and financial capacities. To prove the role of the financial variables in such success, together with the measures proposed by the different models in relation to financial constraints, other variables that affect profitability, business growth and productivity have been incorporated. These last variables are incorporated because they can affect the ability to generate resources and, therefore, the access to financing. Somehow, they can be considered as indirect measures of the financial constraints.

Our empirical results confirm a positive relationship between export success, the age of the company, sales growth, dividend policy and the use of own resources.

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The sample of our study consists of 242 Estonian exporters. Estonian exports have grown considerably in the last two decades (Figure 1). The 2008-2010 economic crisis that also negatively affected some exporters, was, at the same time, an incentive that encouraged several Estonian firms to enter international markets. In 2017 Estonian exports were 12.8 billion EUR, what represents an increase of 7.67% compared to 2016. Moreover, exports represent 55.69% of Estonian GDP, which situates Estonia in the 12th position (from 188 countries) in the export share ranking with respect to GDP.

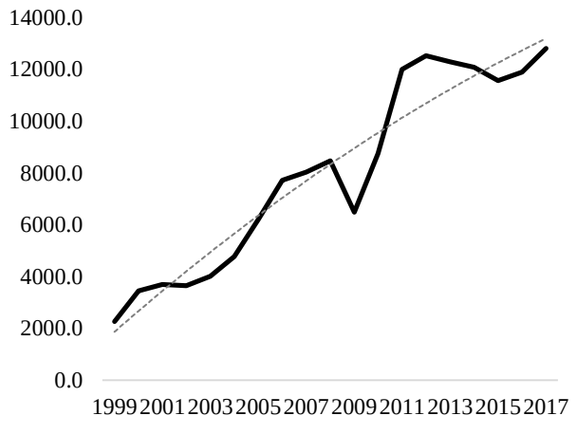

Figure 1 Estonia's exports in 1999-2017 (million EUR)
Source: Own elaboration based on datosmacro.com (https://www.datosmacro.com/comercio/exportaciones/estonia)

Despite its dynamic exporting activity, Estonia is a very small country: its population is only 1.3 million. The smallness of the country makes it an interesting research object as studying small countries is recommended (Schwens et al. 2018; Vissak, et al. 2018). Consequently, at present, studying Estonian firms' export performance is a relevant issue. Moreover, the results could be generalized to other countries that, independently of their size, have had very dynamic export activities in the last decades.

The sample of Estonian firms has been classified into two categories: successful and unsuccessful exporters (Landa-Torres, et al. 2012). For each firm, following the literature review, financial and economic information has been collected. We will focus on the following three sub-themes. First, we will characterize successful and unsuccessful international firms by describing exporters' financial features.

Second, for the set of previously classified firms, we will detect relationships between their financial variables and the success rate. Finally, bearing in mind that the variety and interdisciplinarity of analysis techniques enrich the results, we will carry out our study using two complementary methodologies. On one hand, we will apply a classical statistical technique (principal component analysis) to choose the most relevant variables among the ones selected from the literature. On the other hand, we will use an artificial intelligence method to discover the relations that characterize successful and unsuccessful export behavior.

The following section presents the literature review related to this subject including the research questions. The research sample, the variables and the methodology are presented thereafter. The following sections include the analysis of the results and the conclusions and future research suggestions.

Literature Review: The importance of financial resources and financial variables for international performance

Recent theoretical and empirical contributions point out the importance of financial development for international trade (Stiebale, 2011), although it is not very common to incorporate it to analyzing export performance (Maurel, 2009).

According to the literature, financial resources can affect the export result (Ling-Yee and Ogunmokun, 2001). Financial resources reflect the disposition of the necessary funds to carry out international transactions, but also firms' economic-financial structure (Maurel, 2008).

This structure may lead to the possession of capacities or strengths that allow them to have sufficient "financial health" to conduct the necessary investments to develop their international operations successfully. In short, the difference between internationally successful or unsuccessful companies can also have a financial dimension that can play a key role in exporting behavior (Chaney, 2005).

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That way, and following the previous research that encompasses these features (Greenaway et al, 2007, Berman and Héricourt, 2008; Maurel, 2009, 2008; Arndt et al., 2009; Bellone et al., 2010; Chaney, 2005), our paper considers that the financial structure, the structure of assets (economic structure), the capacity to generate cash flows and the productivity and growth of the company in the past can be linked a priori with its export performance. Even though it is not endorsed in all investigations (Berman and Héricourt, 2008), there may be significant relationships between the export result and certain indicators of profitability, financial and economic structure as pointed out by Maurel (2008).

Following Maurel's (2008) paper, the financial structure refers to sources of financing: shareholders' equity and debts. The shortage of financial resources and their cost can be a strong impediment to international development since this activity requires large investments, and financial sources can affect the achievement of a better export performance.

On the other hand, the economic structure refers to the composition of assets and is divided into two categories: non-current assets and current assets. The disposition of assets can influence export performance through the impact of export-related investments (Maurel, 2008). For example, we can point out the possible impact on the export result if the company has too many resources invested in clients, or if it possesses certain intangible assets such as patents and trademarks.

Finally, the ability to generate cash flows and the shortage of liquidity can slow down growth, especially in international markets, because exporting requires facing significant costs and restrictions that are associated with long payment periods and entry costs. A healthy economic and financial structure should cover those additional costs that cannot be avoided when foreign operations are conducted (Bernard and Jensen, 1999).

To assess firms' health or financial capacity, liquidity ratios, indebtedness ratios (Greenaway et al, 2007, Maurel, 2008, Arndt et al., 2009, Berman and Héricourt, 2008) and other financial structure ratios, which inform of the composition of financial sources and their distribution between debts and share capital, can be used.

The latter ratios can be interpreted as the capacity (or shortage) of obtaining financial resources and therefore, they can be used as a possible measure of firms' financial capacities or constraints (Berman and Héricourt, 2008).

Regarding the asset structure, the capital stock and the composition of assets (current and non-current), together with the ability to generate cash flows in the future as well as measures of productivity, and value added per worker (productivity) are relevant factors (Berman and Hericourt, 2008).

In fact, there is an important consensus in considering companies' productivity differences fundamental for explaining the existence of exporters (Arndt et al., 2009). The justification is that exporting can only be feasible if certain productivity thresholds are reached (Chaney, 2005). Therefore, we try to check if a specific economic-financial structure is associated with exporters' success (or failure). In this way, we can mention some of the aspects that have been discussed.

First, financial factors influence the decision to export because entering foreign markets can be considered as an investment (Melitz, 2003) associated with several additional costs. Significant evidence of this relationship has been obtained, concluding that only the most productive and largest companies can afford the costs associated with entering foreign markets (Melitz, 2003, Bernard and Jensen, 1999, Campa, 2004, Roberts and Tybout, 1997). This is consistent with the hypothesis that limited access to external financing can prevent companies from going abroad (Bellone et al. 2010).

Second, there is some evidence that exporters have a better financial situation than non-exporters, and this better situation is a result of participation in foreign markets rather than a determining factor for entering those markets (Greenaway et al, 2007). Some investigations explain how exporting can improve firms' financial position: for example, in terms of access to financing or lower liquidity constraints (Campa and Shaver, 2002). Additionally, exports can be considered a sign of efficiency and competitiveness for potential investors in an environment of information asymmetries linked to the imperfections of financial markets since only the best companies can export (Arndt et al., 2009).

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In other words, not only can there be an improvement in financial health due to participation in foreign markets, but also that position can influence the export result. That relationship is to be determined in this study. There is an increasing interest in the role of financial constraints in international trade, from both a theoretic and an empirical point of view (see for example Manova, 2012, 2015; Muûls, 2015). Several studies show the relationship between external financing and international trade. For instance, Minetti and Zhu (2011) stated that rationing of credit can affect the decision to enter export markets and also export share. Bellone et al. (2010) found a negative relationship between financial health and export intensity as well as the type of export firms. Manova et al. (2015) showed how financial constraints affect firm-level exports and multinational activities.

Different measures and valuations of exporters' financial constraints are related, on one hand, to productivity (Melitz, 2003) and, on the other hand, to firms' ability to achieve profitability by means of cash flows. Access to credit and external financing (Muûls, 2015; Wagner, 2014) also affects firms' ability to follow investment opportunities (Almeida et al., 2004). Moreover, financial constraints depend on firms' financing preferences according to the Pecking Order Theory (Myers and Majluf, 1984). In the literature, firms' financial constraints, liquidity and leverage (Greenaway et al. 2007) are often used to represent higher or lower likelihood of credit restriction. Nevertheless, we will apply more complex and complete methodologies.

At this point, a literature review has been conducted looking for different proposals about how to measure financial constraints and their different effects on international activities (see, for instance Manova 2012; Manova et al., 2015; Wagner, 2014; Minetti, and Zhu, 2011; Musso and Schiavo, 2008; Williamson and Yang, 2016). In Table 1, the main models used to measure financial constraints are summarized.

Study	Model	Variables
Kaplan and Zingales, 1997 (first approach). Lamont et al. (2001) (index creation).	*KZ index*	K_{it}: capital stock (fixed assets); CF_{it}: the cash flow variable; Q_{it} is the Tobins's Q; D_{it}: the debt variable; $TotCap_{it}$: the total capital (sum of debt plus stockholders' equity); Div_{it}: dividends $Cash_{it}$: is the cash (cash plus short-term investments).
Whited and Wu (2006)	*Whited and Wu index (WW index).*	cash flow to total assets (-); dividend policy indicator (-) long-term debt to total assets (+); size (log of total assets or market capitalization) (-); the firm's three-digit SIC industry sales growth (+); sales growth (-)
Musso and Schiavo (2008) (Bellone et al.'s 2010 contributions are based on this method)		size (total assets); profitability (return on total assets); liquidity (current asset over current liabilities); cash flow generating ability; solvency (own funds over total liabilities); trade credit over total assets; repaying ability (financial debt over cash flow)
Hadlock and Pierce, 2010	*Size-age methodology: SA index*	Assets; size; firm's age
Stiebale, J. (2011)		Liquidity ratio Leverage Short-term Leverage Coverage Ratio Cash-flow ratio Size Productivity Total factor productivity Reports Intangible assets (yes/no) Intangible assets Tangible fixed assets Export sales/total sales Number of employees Value added per employee Sales per employee Personal costs per employee

Table 1 Models of financial constraints
Source: Own Elaboration

As it has been pointed out, the results of other studies support several ideas. First, a company with limited financial resources is less likely to be competitive abroad. Export activity involves longer payment periods than the domestic trade (Ling-Yee & Ogunmokun, 2001).

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Thus, companies must have a solid financial position to maintain their commercial activities. Second, export activity requires financial resources for its successful implementation and sustainability. Therefore, a company needs sufficient funds to be able to improve its production capacity, develop export specialists' skills and cover other operational costs such as transport risks or currency volatility. (Ling-Yee and Ogunmokun, 2001).

Thus, there is wide evidence that exporters outperform non-exporters in many aspects, which means that companies must have a certain level of liquidity and productivity to start exporting. This is called the "self-selection" hypothesis or effect. Only the most productive companies can start exporting (Melitz, 2003; Battaglia, et al., 2018). The debate on this matter is intense; however, the causality can go in the opposite direction. In this sense, empirical evidence on the reverse causality, the so-called "learning for export" hypothesis, is less extended (Greenaway and Kneller, 2007).

Thus, starting from the assumption that financial variables affect exporters during their whole life cycle, the following research question is developed:

Which financial variables distinguish successful and non-successful exporters?

This also allows us to show how a combination of financial variables (the ones that are included in the models of financial restrictions -*direct measures* of financial constraints- together with the ones related to profitability, business growth and productivity -*indirect measures* of financial constraints) reflects in different status of exporting companies.

Sample, variables and research methodology

Sample and variables

This study is based on firm-level data from the Estonian Business Register's database of annual financial reports. It contains financial and economic information for 242 Estonian firms for the period 2009-2013. Only manufacturing firms were analyzed, as such firms are the most active exporters (Lejárraga and Oberhofer, 2015; Vissak, et al. 2018).

To measure the international performance of the sample firms, following the literature, two variables have been selected: export intensity (export ratio) and export growth rate for the period of 2009-2013 (Czinkota and Ursic, 1991; Shoham, 1996). Both measures provide a reasonable description of export performance and capture the complexity of the export process and its success (Landa-Torres, 2012). The combination of both indicators allows us to classify the firms in different categories, according to the rate of success or failure (Figure 2).

Export intensity (exports/total net sales in percentage)	Export growth rate last five years (in percentage)s	
	Increase	**Non increase or decrease**
Over 15%	Success	No success
Equal or less than 15 %	Non-success.	No success

Figure 2 Matrix Intensity/Growth
Source: Own Elaboration based on Czinkota and Ursic (1991)

Our choice of explanatory variables was guided by prior approaches to measuring constrains (see Table 1). Originally, the list of dependent variables consisted of all the variables used in the models of financial constraints, especially Musso and Schiavo (2008). Consequently, 31 independent variables were calculated. Due to the missing information about some firms' independent variables, the final sample consisted of 121 companies, 82 were "successful" and the rest (39 firms) "unsuccessful", with 31 variables calculated.

Due to the large number of variables in relation to the final sample (121 firms), it was necessary to check the sample's suitability for the analysis. Therefore, factor analysis was conducted. Principal Components Analysis (PCA) allowed us to check the percentage of variance that the 31 variables explained. The statistical tests evaluating the suitability of the sample to the model showed excellent adequacy of the data, because KMO statistic, which indicates the proportion of the variance that the analyzed variables have in common, had a value of 0.883. Thus, data were suitable for the factor analysis. Also, by applying Bartlett's test we could assure that factor analysis can be used: the significance was perfect since it had the value 0.00. Finally, another factor to consider is the determinant of the correlation matrix that presented a value of 5.97E-015.

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As it was very close to 0, this suggested a high level of multicollinearity in the set of variables involved in the matrix. We initially selected five factors, which included 27 variables that had eigenvalues ≥1 indicating that the component explained more variance than a variable alone. These five components explained 72.531% of the variance.

	Initial Eigenvalues		
Component	Total	% variance	% accumulated
1	12,144	44,979	44,979
2	3,198	11,846	56,825
3	1,805	6,685	63,510
4	1,399	5,181	68,691
5	1,037	3,840	72,531

Table 2 Total variance explained
Source: Own Elaboration

Component 1 (equity, total assets, cash stock, total stock, working capital, CAPEX, short liability, financial debt, long-term debt, retained earnings, cashflow, current assets, tangible fixed assets, total liabilities, earnings before interest and taxes, sales, net income and number of employees) was the most relevant since it explained 45% of the variance. This component grouped the variables of economic and financial structure (economic structure of current assets), and how they interacted to generate profitability.

Concretely, in this first component, the variables that saturated more were those related to the size of the company (measured in terms of total assets and sales), liquidity (current assets and cash flow) and companies' short-term solvency (due to working capital and short-term debt stand out). The component 2 added interest payment variable because the attributes with greater weight were those linked to long-term debt and its cost, whilst the most relevant variables in component 3 (sales growth, ROA, value added per employee, productivity and dividend policy) were those variables related to companies' economic performance and productivity. In component 4, variables of different nature appeared (industry growth and wages), but the most relevant was the growth of the industry that can be considered a proxy of business opportunities in a certain sector. Finally, in component 5, the variable with the greatest weight was companies' age, which can be considered a proxy of experience but also of financial restrictions, as we have indicated.

To maintain the explanatory power, we eliminated six variables, as the same information was also provided by other variables:

- Number of employees and sales level were removed since we kept the total assets variable as a measure of the company's size.
- The current assets variable was eliminated due to the breakdown of liquid assets and stocks.
- Tangible fixed assets variable was eliminated since the investment made in non-current assets was included.
- Total liabilities were removed as we included the short- and long-term liabilities.
- Earnings before interest and taxes variable was also eliminated as ROA, on one hand, and the cash flow, on the other, were included.

Thus, PCA allowed us to reduce the original number of variables to 21 (Table 3) and to perform the classification with a reasonable number of factors. We checked in PCA that the five initial factors with eigenvalues greater than 1 or near 1, continued to explain about 71% of the variance, which is an acceptable figure.

Variable	Definition
Control Variables	
Industry_growth	Industry: Firm's three-digit SIC industry sales growth (Sales t -sales t-1)/ sales t-1
Years.	Age of the firm: number of years since the firm was founded
Total_assests	Total assets (firm's size)
Solvency and Liquidity variables	
Cashflow	Operating cash flow
cash_stock	Cash
total_stock	Stocks
WC_CA	working capital
CAPEX	Capital Expenditures: exact amount of money the firm in a specific year has spent to purchase new fixed assets (proxy)
long-term debt	long-term debt
Sh_Liab	short-term deb
Financ_Debt	Financial debt: the loans with the banks (short-term and long term) and the issue of bonds. In case there is no information of the bonds issues, just the bank loans are considered.

Dividend_policy	Dividend policy indicator: Dummy variable that takes 0 in case of not dividend policy; or 1 if there is dividend policy.
Interest_payment	Payments of interests: This is a proxy of annual accrual based interest expense.
Retained_earnings	Retained earnings: This is the maximum amount of resources that a firm can devote to self-financing
Equity	Shareholders' funds
Variables related to profitability and growth	
Sales_growth	Sales growth: (Sales t - sales t-3)/ sales t-3
ROA	Profitability: Return On Assets
Net_income	
Val_added	Value added per employee. It is calculated in the following way: sales + other operating revenues-cost of goods sold -operating expenses (without amortization). This result is divided by the number of employees
Wage	Wage level
Productivy	Value added. It is calculated in the following way: sales + other operating revenues - cost of goods sold-operating expenses (without amortization). This result is divided by the wage

Table 3 Definition of independent variables
Source: Own Elaboration

As we can see, the list of independent variables used to classify successful and unsuccessful companies covered most of the elements of the most common indexes such as Kaplan-Zingales, Whited-Wu and Musso-Schiavo. Additionally, in our model we also intend to encompass several dimensions, not only the financial profile (that is, the financial capacities reflected in the capital structure) of the company but also of the economic one (that is, the profitability, business growth and productivity that are indirect indicators of the financial constraints).

Thus, we refer to several components of the long-term solvency of the company, liquidity, the company's ability to generate profitability and business opportunities and growth, efficiency and productivity as well as characteristics of the workforce. Liquidity and solvency refer to the ability of a company to pay its short-term obligations, and generate liquidity quickly, as well as the ability to meet its long-term financial obligations.

Normally, financial constraints have been assessed in terms of restricted access to external funds or low productivity for generating internal resources (Kiendrebeogo and Minea, 2016). However, as it has been pointed out by Bellone et al. (2010), there is no clear relationship between liquidity, leverage and financial restrictions as companies can have enough liquidity, but nevertheless, present a complicated financial situation or have a lot of liquidity because they cannot access external resources. Almeida et al. (2004) also pointed out that companies with limited financial resources normally accumulate cash, and therefore, liquidity is associated with financial constraints. The same happens with bankruptcy that could be a sign of limited access to external resources. Also, on the other hand, the payment of dividends has been related to companies with lower financial restrictions than those that do not pay dividends (Fazzari et al., 1988).

In terms of efficiency, we intend to measure the capacity to produce profitably and how efficiently a company uses its resources. In terms of profitability, we refer to the ability to generate profits. Regarding the variable wages, it expresses the variations between companies in terms of qualifications (Wagner 2012), but also the differences in production costs (Stiebale 2011). Consequently, salaries are negatively correlated with firms' competitiveness and this fact penalizes the participation of companies in international markets. However, higher salary levels can reflect workers' higher qualification, so this can also have a positive effect on export success.

Finally, other variables that have appeared in the previous models and that have been considered as relevant, were added as control variables. These variables are the age and the size of the company. Size and age are associated with the probability of exporting but also with companies that are less financially constrained (Hadlock and Pierce, 2010).

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Research Methodology

Nowadays the complexity of financial problems requires a new approach to tackle them. In this new context, new techniques have appeared, among them the so-called *Data Mining (DM) techniques*. DM techniques are algorithms that can deduce relationships among different attributes, variables or concepts to help in the decision-making process, among other questions. DM can be defined as the analysis of data sets observed to find unsuspected relationships and to summarize the data in a new form that can be useful and understandable (Hand et al. 2001). Data mining techniques have proliferated in several fields such as finances, industry, commerce, telecommunications and services and, even in medicine. As we can see, all these sectors require advanced techniques to obtain useful information due to the huge amount of data that they frequently manage. In fact, the final objective consists in "*turning data into knowledge".*

Data mining techniques can be divided into two groups: statistical techniques and methods that belong to Artificial Intelligence (AI). The techniques that solve problems using artificial intelligence are called *Soft-computing* techniques. Consequently, in recent years, together with statistical techniques (discriminant analysis, logit or probit), there is a new approach to tackle with many problems, the financial ones among them, based on soft computing techniques. AI tools are very useful. In some cases, they are complements, and even an alternative to the statistical methods as they overcome some of their problems when the variables do not satisfy the required statistical assumptions (Korol, 2013). In any case, they can give a new approach to the financial problems that are dealt with these new methodologies.

Once the use of artificial intelligence methods has been justified in general, it would be desired to choose a criterion to select the most suitable one to solve our problem. Sometimes, the utility of the knowledge generated by the data mining techniques is directly related to the understanding of the obtained model. Some of them are explicative methods: the obtained model is directly understandable by the final users, even if they are not experts in the method (rule induction algorithms and decision trees).

Others follow a "black box" approach: the knowledge that they generate is not directly understandable or easy to analyze by the final users (it is implicit), such as in neural networks or support vector machines. Due to the characteristics of the considered problem and the fact that, normally, its final user is not an expert in data mining techniques, it is important that the obtained model must be understandable. So, explicative artificial intelligence techniques will be used to identify the role of financial variables in export success, concretely, a rule induction algorithm.

The rule induction algorithms developed their models in the form of logical sentences: *if* … conditions … *then* ... decisions. If some *conditions* (ratios, attributes or variables) are satisfied *then* the firm belongs to a determined category (*decisions*). Consequently, the rules are understandable by the final user and the conclusions derived by the data are easily explainable. Each decision rule has a specific *strength*: the number of objects that satisfy the condition part of the rule and, this way, they belong to the class or category indicated by the rule.

Next, a brief description of the methodology is presented. PART algorithm (developed by Frank and Witten, 1998) has been defined as a rule-learning algorithm based on partial decision trees algorithm that eliminates some of the paths found in an initial decision tree structure. Therefore, we could state that it "combines" a decision tree and a rule learning algorithm. In short, PART aims at the most general rule by choosing the leaf that covers the greatest number of instances. The combination of both strategies adds flexibility and speed to PART (for more details, see Frank and Witten, 1998). Additionally, in our experience PART is more accurate and simple than other fast rule induction what makes it more suitable than others to the problem we are studying (Camacho et al., 2015; Muñoz-Izquierdo et al., 2019).

Results and Discussion

The final sample of 121 firms described by the 21 dependent variables shown in Table 3 will be used to carry out our analysis.

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Part Model

The PART model has been developed using WEKA (data-mining package developed by Waikato University (Witten and Frank, 2005) and available at https://www.cs.waikato.ac.nz/ml/weka/). The percentage of correctly classified firms is 73% (cross-validation procedure), which allows us to interpret the rules. Figure 3 shows Part model rules.

```
PART decision list
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total_stock > 145327 AND
WC_CA_SLiab > 888075: SUCESS (42.0/3.0)

Interest_payment <= 1231: NO_SUCESS (12.0/1.0)

years <= 24 AND
Dividend_policy = 0 AND
Interest_payment > 27157: SUCESS (10.0)

years > 21 AND
Retained_earnings <= 3156555 AND
Dividend_policy = 1 AND
equity > 842991: SUCESS (7.0)

years > 21 AND
Dividend_policy = 0 AND
Sales_growth > -0.273: SUCESS (31.0/12.0)
```

Figure 3 Part Decision List
Source: Own Elaboration. The model can be read in the following way: Rule 1 "if the total stock is greater than 145,327 and the working capital is greater than 888,075 then the firm belongs to the success class. This rule is supported by 42 firms with three exceptions" and so on.

Although the original number of variables is 21, the five rules only contain eight variables. Therefore, the rest could be considered as redundant. Focusing on these variables, in this model the relevant variables are those related to the liquidity of assets, showing that there is a positive relationship between export success and working capital requirements and stocks if these surpass levels that are not excessively high (considering the average values of these variables).

This result suggests that considering that success in international markets is reflected in a greater export intensity and a growth in foreign sales, this success should be achieved by serving customers abroad adequately, which could force them to maintain a certain level of stocks as well as more investment in working capital (Wagner, 2014). The second rule refers to the payment of interest for financial debt. The PART shows that if this variable is lower than the before-mentioned level (see Figure 3), companies have difficulties in achieving success.

This result means that although interest payment affects the liquidity of the company, if this payment is low, a company may experience difficulties of accessing external financing and, therefore, it may have financial restrictions. The third rule, like the previous one, does not present a great strength, but it relates three variables: age, interest payments and dividend policy, which draws a profile on financial restrictions. So, companies with a certain level of maturity (considering that the minimum is 19 and the maximum is 28 years) that can access external resources even if they do not pay dividends, can achieve success.

In the same line, we find the fourth rule and fifth rule, in which we continue to link success to companies that do not have financial restrictions as they can generate sufficient resources with their own activity. These resources are represented by the payment of dividends and by having a certain level of capital or achieving a certain level of growth.

The last rule indicates that the age itself can be an impediment to achieving success. Considering that the average age of the companies in the sample is 24 years and given the results of the previous rules, we found that age does not present a linear relationship with success. The more mature companies may not achieve success in international markets, and they can even exit from these markets. The resources of a company as well as its capabilities are determined by the pattern of its past behavior (Teece et al., 1997) that can create barriers and dependencies that can condition and limit the actions in the future. Thus, compared to older companies, the new ones are not subject to these procedures or traditions, which can be a stimulus to make decisions with greater freedom, take risks and adopt an entrepreneurial orientation that can lead to better results in foreign markets (Balabanis and Katsikea, 2003).

Robustness

To ensure the viability of our results, we have performed a robustness check with another artificial intelligence rule induction algorithm: rough set theory that has been used to solve other financial problems (Segovia-Vargas et al., 2015; Camacho-Miñano et al., 2015). The rough set theory was firstly introduced by Pawlak (1991).

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It is a mathematical method that identifies dependencies among attributes and searches for association rules with them to solve a classification problem. Two relevant concepts in this methodology are the *reduct* and the *core.* The reduct is the minimal subset of attributes that provides the same classification as the set of all attributes. If there is more than one reduct, the intersection of all of them is the core and is the collection of the most relevant attributes in the table.

The rough set model has been carried out using RSES (available at https://www.mimuw.edu.pl/~szczuka/rses/start.html). The classification accuracy equaled 76.1% (cross-validation procedure). This figure was quite similar to the one obtained by PART, so this evidence suggests that our results are robust. The Rough Set model was quite complex compared with PART and the core was empty, confirming that no single variable could explain the successful or unsuccessful model. However, focusing on the selected variables in the reducts, one of the most relevant variables was sales growth, that also appeared in the PART model, what would confirm the importance of this variable in the success in international markets.

Conclusions

The objective of this paper is to investigate the relationships between exporting success and financial constraints using several measures of financial constraints and other variables that affect profitability, business growth and productivity that can affect the ability to generate resources and, therefore, the access to financing. The incorporation of all these variables will allow us to determine a financial and economic profile of export behavior as completely as possible, given the complexity of the phenomenon and following the recommendations of previous investigations.

For this purpose, we incorporated several variables to characterize the multiple dimensions of the phenomenon: the economic or investment structure of the company, the financial structure as well as some other aspects such as the company's growth measures, the efficiency and the profitability of the company (Lages 2000 and Lages et al. 2008).

One of the lines of research that has been suggested to overcome some of these drawbacks has been the use of new techniques and methodologies based on the experimentation (Leonidou et al. 2010) and this is among the main contributions of this paper. We analyzed the export phenomenon with methods of artificial intelligence: in this case, by means of the rule induction algorithm PART, which allowed us to study the internationalization process from a more realistic, global and integrating approach and with more sophisticated quantitative analysis techniques.

These methodologies have been gradually and successfully incorporated into the analysis of other economic and financial problems (Tay and Shen, 2002) and enable studying the export process from an unprecedented perspective not previously applied by other scholars.

Thus, from the methodological perspective and given the results obtained with the PART algorithm, it can be concluded that this method was appropriate to carry out the descriptive analysis that allowed classifying exporting companies into successful and unsuccessful according to the attributes included in the research. These variables reflect the complex nature of the business decision-making process, especially in firms' internationalization where there are many factors to consider. These factors can describe export behavior, on one hand, and, on the other hand, to relate the descriptions of exporting companies with decisions about their classification.

Firstly, we will point out the most important results. From the economic point of view, we found that the way to international success (or failure) in general not only follows a path but can be also reached via different routes. Each of these possibilities will show a greater relevance of some characteristics over others and what is more important, the combination, adjustment or interrelation between these factors makes up each of the possible alternatives. Thus, with the results obtained in this research, we can point out that although there are more significant financial factors than others, none of them is clearly a key factor for all companies and situations.

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Consequently, as it has been emphasized by Robertson and Chetty (2000, p. 214), following the contingency and strategic adjustment approach "there is no good or bad factor in relations to others, but each one of them can be more appropriate depending on the context in which they are used".

We also showed that it is easier to identify the financial characteristics of successful exporters than companies classified as unsuccessful. The rules associated with class 1 (success) have greater strength and coverage. It is very interesting to understand these relationships as they would help companies to correct certain actions and strategies and avoid failure (even exiting export markets) and, on the other hand, the stakeholders in export companies (investors, governments and financial institutions among others), could choose properly the actions and investments to be made. These results, therefore, show that although the road to success is more complex due to the variety of obtained rules, it is equally useful to know the decisions that can lead to failure in export activity.

Another important advantage of the method is its ability to discover knowledge. In our case, the common patterns of export success and failure reveal the direct or indirect relationships that may exist between the variables, but also provide in a concrete and specific manner (the way and the value that these variables must take) that classification occurs in one of the classes: success or failure. This is important because it obtains a high degree of detail and concreteness that can be used in subsequent investigations to perform partial analyses of certain variables and situations, and as it creates a true "recipe booklet" of how to achieve the desired export result.

In general, no decision rules contain just a single variable. Therefore, it is important to note that there is no condition or characteristic which automatically constitutes a sufficient condition for success. In other words, no single factor leads to success or failure. The use of own funds and the growth in total sales of the company are relevant since they appear frequently. The last result confirms the relationship between this variable and export behavior.

Therefore, past results can affect companies' decisions and future actions and, moreover, the (dis)satisfaction with past results can cause changes in foreign activities to the extent that the perception of risk and the strategic orientation will also change. Previous results influence companies' strategy and future exporting behavior. In addition, this fact is linked to the learning process as organizations incorporate experience into their actions in a way that will guide future behavior in relation to taking risks, innovation, and adaptation to the target market (Lages et al., 2008).

The most productive and growing companies are those that can afford the costs associated not only with foreign market entry, but also with export permanence. To the extent that exporting can be considered a market diversification strategy, it is linked to the idea that any strategic option requires resources. In future research, it would be interesting to explore this recursive process not sufficiently researched in the field of exports.

Similarly to other studies, this paper is not short of limitations. Our main limitation has been the sample size, as it was reduced to analyze the maximum number of variables suggested by the literature review. It was impossible to get all the relevant variables for all the firms. Consequently, larger samples should be studied in the future. Finally, our results have practical implications for managers and economic policy makers.

Companies should follow a path of growth and profitability and use internal and external financing (if it is accessible and available) to increase their export intensity, since it allows developing a sustainable export strategy. The availability of these financial resources allows companies to finance the investments required for export.

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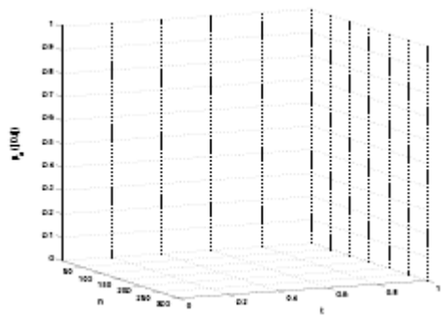

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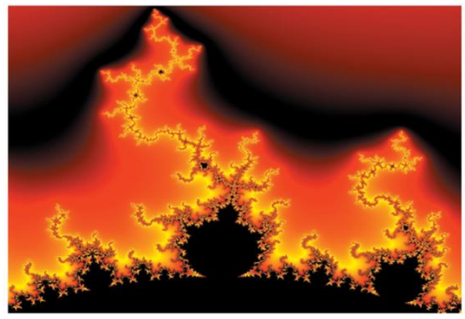

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